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During a 6-month period, 90 fourth-grade pupils were tutored in reading by elementary education majors as part of their regular classroom instruction. Work was done individually or in small groups 4 days weekly for hour per tutoring session, and all materials used were on each child's instructional reading level. A control group of 90 pupils received the regular classroom instruction only. The study concluded through one-way analysis of variance that tutoring significantly increased the gains in vocabulary, comprehension, and total reading achievement for the combined tutored groups. Individualized tutoring proved more effective than small group tutoring. The program was also considered valuable for teacher education. Weekly progress reports, views of tutoring, samples of diagnostic and evaluative reports, and materials used for tutoring are presented in appendixes. References are included. (RT)

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Project No. 7-E-127
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Sister Laurietta (Rita) Klosterman
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Dayton, Ohio 45409
September, 1968

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U.S. DEPARTMENT OF
HEALTH, EDUCATION, AND WELFARE

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THE EFFECTIVENESS OF A DIAGNOSTICALLY STRUCTURED READING PROGRAM FOR FOURTH GRADE PUPILS USING STUDENTS MAJORING IN ELEMENTARY EDUCATION AS TUTORS

Sister Rita Klosterman, Ed.D.
Indiana University, 1968

Chairman: Dr. Leo Fay, Ph.D.

Purpose

The study was designed to test the effectiveness of a diagnostically structured tutoring program in reading for fourth grade pupils in a low socio-economic district. It also attempted to study the differences in gain in reading achievement of fourth grade pupils tutored individually and in small groups.

Procedure

During a six months' period 90 fourth grade pupils from three elementary schools were tutored as part of their regular classroom instruction, individually or in small groups four days weekly, one-half hour per tutoring session. A control group from the three experimental schools and an outside school control, with a combined total of 90 fourth grade pupils, received the regular classroom instruction only. In each of the seven classrooms of the three experimental schools, the pupils were assigned randomly to be tutored either individually, in a small group, or to be a member of the classroom control. The investigator instructed the tutors, students majoring in elementary education, in the principles and techniques of teaching reading and supervised the tutoring program. The tutors based their instruction on the results of the pre-test, the diagnostic test, and continued evaluation of the pupils' progress. The materials used were different from those used in the regular classroom and were on each child's instructional reading level. The tutors followed a diagnostically structured program determined by the needs of the individual child. During each tutoring session, the tutors developed vocabulary, word attack skills, comprehension, and interpretation skills by establishing a purpose for silent and oral reading.

Findings

Gains in reading achievement were measured by determining, through a one-way analysis of variance, the mean differences between the pre-test administered in September and the progress test in January and the pre-test and the post-test administered in April. The results indicated the following: (1) The subjects who were tutored made significantly greater gains in vocabulary, comprehension, and total reading achievement than the subjects in the control group; (2) The subjects tutored individually made significantly greater gains in vocabulary, comprehension, and total reading achievement than the subjects in the control groups;

(3) The subjects tutored in small groups made significantly greater gains in comprehension and total reading achievement than the subjects in the control groups; (4) In January, but not in April, the subjects tutored in small groups made significantly greater gains in vocabulary than the subjects in the classroom control; (5) The subjects tutored in small groups did not make significantly greater gains in vocabulary than the subjects in the school control; (6) The subjects tutored individually did not make significantly greater gains in reading achievement than the subjects tutored in small groups; and (7) The subjects in the classroom control did not make significantly greater gains in reading achievement than the subjects in the school control.

Conclusions

Conclusions from the statistical analysis of the data were the following:

1. Tutoring individual or small groups of pupils as part of the regular classroom instruction is effective. It significantly increased the gains in vocabulary, comprehension, and total reading achievement for the combined tutored groups.

2. Individualized tutoring proved to be more effective than small group tutoring.

3. The experimental program produced greater gains during the first semester than the second semester. There were significant gains, however, during both semesters.

4. During the second semester the school control group more than doubled its gains in vocabulary, comprehension, and total reading achievement as evidenced by the means in January and April.

5. The effectiveness of the program provided research evidence for the positive value of (1) a diagnostically structured reading program; and (2) individual attention for culturally deprived children.

Other conclusions from this study were the following: (1) The use of students majoring in elementary education was advantageous for the tutoring program; (2) Students in elementary education benefited by applying in practice the theories and techniques presented in the reading methods course; (3) Since the program proved effective for both the subjects tutored and the tutors themselves, the study can be considered as research evidence of its positive value for teacher education.

Approved and accepted by: ______________________, Chairman

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THE EFFECTIVENESS OF A DIAGNOSTICALLY STRUCTURED READING PROGRAM FOR FOURTH GRADE PUPILS USING STUDENTS MAJORING IN ELEMENTARY EDUCATION AS TUTORS

BY

SISTER RITA KLOSTERMAN

Submitted in partial fulfillment of the requirements
for the Doctor of Education degree
in the School of Education
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Accepted by the faculty of the School of Education, Indiana University, in partial fulfillment of the requirements for the Doctor of Education degree.

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Director of Thesis

Doctoral Committee: ________________________, Chairman

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S.R.K.

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CHAPTER I

INTRODUCTION

Statement of the Problem

The purpose of this study was to determine if a diagnostic and structured tutoring program in reading conducted by students majoring in elementary education would be effective. The study sought to determine if fourth grade pupils who were tutored as part of their regular classroom instruction achieved significantly greater gains in reading achievement than fourth grade pupils who received only the regular classroom instruction. Further, the study sought to determine if the pupils who were tutored individually achieved greater gains in reading achievement than the pupils who were tutored in small groups.

Background and Need for the Study

Intermediate grade children are expected to use reading as a learning tool. The curriculum of the elementary school is built upon this premise, yet, many children, especially disadvantaged youngsters, have not acquired the skills necessary to cope successfully with the materials they are expected to read. This poses two questions: (1) How can intermediate grade children be taught the skills necessary to use reading as a learning tool, and (2) Can assistance be given to intermediate grade teachers to help them direct a more successful reading program.

Conclusions drawn from research have indicated that an eclectic approach to teaching reading based on the needs of the individual child produces the greatest growth in reading achievement.[1] This conclusion contains three essential factors for a successful reading program, namely, diagnosis of reading abilities, individualized instruction, and teaching techniques and materials suited to the individual child. Class load hampers the efforts of intermediate grade teachers from executing such a diagnostic and individualized program.[2] And, it is doubtful at the present time if class size can be substantially reduced because of the shortage of certified teachers.[3]

Recently, the idea of using non-certified personnel to assist the teacher by tutoring children has been spreading in different parts of the country.[4] High-school students, college students, and other interested persons are attempting to improve the reading abilities of children through tutoring programs. The investigator believes that students majoring in elementary education can contribute tutoring services that will prove very beneficial to elementary school children. The investigator believes that these students can be directed to diagnose the reading abilities of children and to use a diagnostic and structured approach in developing the reading skills of the children they tutor.

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[1] Bond, G. L., and Wagner, Eva, Teaching the Child to Read, p. 60; Austin, M. C., and Morrison, Coleman, The First R. The Harvard Report on Teaching Reading in the Elementary School, p. 221; Bond, G. L., and Dykstra, Robert, "Interpreting the First Grade Reading Studies," in The First Grade Reading Studies; Findings of Individual Investigations, p. 7.

[2] Austin and Morrison, op. cit., p. 228.

[3] Ibid., p. 228.

[4] Consult Chapter II, Review of the Literature.

Therefore, this study is based on research and current trends in reading instruction. The need for the study arose from the investigator's observations of the reading problems of children in low socio-economic districts and the need to improve teacher education by directing students in the practical application of the theories and techniques of reading instruction presented in the reading methods course.

Major Hypotheses

The following hypotheses were tested:

Hypothesis 1. There is no significant difference in gain in vocabulary, comprehension, and total reading achievement between the experimental groups, subjects tutored individually and in small groups, as part of their regular classroom instruction, and the control groups, the classroom control and the school control groups.

Hypothesis 2. There is no significant difference in gain in vocabulary, comprehension, and total reading achievement between the subjects tutored individually as part of their regular classroom instruction and the subjects in the classroom control group or the school control group.

Hypothesis 3. There is no significant difference in gain in vocabulary, comprehension, and total reading achievement between the subjects tutored in small groups as part of their regular classroom instruction and the subjects in the classroom control group or the school control group.

Hypothesis 4. There is no significant difference in gain in vocabulary, comprehension, and total reading achievement between the subjects tutored individually as part of their regular classroom instruction and the subjects tutored in small groups as part of their regular classroom instruction.

Hypothesis 5. There is no significant difference in gain in vocabulary, comprehension, and total reading achievement between the subjects in the classroom group and the subjects in the school control group.

Limitations of the Study

The scope of the present investigation was limited as to schools, subjects, tutors, and tutoring sessions. Four elementary schools located in the low socio-economic district of Dayton, Ohio, were selected for participation in the study as either experimental schools or as the control school. The subjects were all of the fourth grade pupils enrolled in the four participating schools during the academic year, 1967-1968. The tutors were students majoring in elementary education at the University of Dayton who volunteered for the experimental section of Education 320, Reading and Language Arts in the Elementary School, the fall semester, 1967. The tutoring of subjects extended over a six months' period. The tutoring sessions were held four days a week, Monday through Thursday. They were one-half hour in length, per individual or small group.

The random selection of subjects in the experimental schools to be tutored individually, to be tutored in a small group, or to be a member of the classroom control group was confined to separate intact classroom units. Therefore, the subjects tutored in small groups had a wide range of achievement in reading.

In this type of study, human variables limit the experiment. The subjects were predominately Negro from a lower socio-economic district. The investigator supervised the tutors and guided procedures and techniques. The tutors, however, were not certified teachers, but students who were concurrently learning techniques of teaching and the reading curriculum in the elementary school. The experiment was also the investigator's first attempt at directing a tutoring program in conjunction with teaching the reading methods course.

Definition of Terms

Tutor: A person who teaches or guides individuals in a special subject or for a particular purpose. In this investigation the term was used for a person who taught an individual child or a small group of between three to five children.

Student-tutors: Students majoring in elementary education who had the necessary professional background of knowledge to be introduced to the practical application of teaching while currently learning the theories and techniques of teaching reading.

Small group: A group consisting of three to five subjects taught by one tutor.

Diagnostically oriented: Diagnosis means to analyze the cause or nature of a condition, situation, or problem. Oriented means to set right by adjusting to facts or principles. The compound term denoted the basis for instruction that the tutors used for planning their teaching procedures and setting their objectives and goals.

Tutoring session: This term applied to the half-hour instructional period of directing an individual child or a small group of children.

Progress test: The California Reading Test, Form Y, administered in January. This test was administered to give the tutors an added opportunity to diagnose the pupils' reading strengths and weaknesses and to re-evaluate their teaching methods and techniques.

TI referred to the subjects tutored individually.

TG referred to the subjects tutored in a small group.

CC referred to the subjects in each classroom who did not participate actively in the tutoring program but were selected as a classroom control.

SC referred to the subjects in the two fourth grade classrooms in the school not actively participating in the study and selected as the school control.

CHAPTER II

REVIEW OF THE LITERATURE

Introduction

Three areas related to this investigation are individualized reading, diagnosis of reading abilities, and the tutorial approach to teaching reading. The review of each area will be limited to the literature that the writer considered relevant as a background for the present study.

In reviewing the literature, not one research study was found that was directly related to the present investigation, namely, a diagnostically structured tutoring program as part of the regular classroom reading instruction.

Individualized Reading

Since the subjects in this study were from a low socioeconomic district, the principles of individualized reading as described in current literature were viewed in the light of the characteristics of the culturally deprived. Individualized reading presupposes that a child is naturally motivated, has a positive self-concept, and a background of experiences. This child, it is believed, if released to the right materials will propel into reading and through inner motivation succeed. Spache[1] explained the basic principles of individualized reading, namely, seeking, self-selection, and self-pacing as proposed by Olson. Within the child are the drives for maturation and a pattern of development. Consequently, the child should acquire skills at his natural pace according to his readiness. Skills, habits, and attitudes should not be imposed by an external force. Internal motivation should prompt the child to select materials suited to his needs and interests, thereby permitting him to develop skills needed for continual and constant progress in reading achievement.

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[1] Spache, G. D., Reading in the Elementary School, p. 94.

Generally the culturally deprived child lacks the inward motivation that should urge his seeking, self-selection, and self-pacing. This is true in the primary grades and if not corrected grows year by year. Whipple and Black[2] stated that the culturally deprived child in the middle grades has indifferent attitudes toward school. He neither likes nor dislikes it. This child has no feelings of identification nor involvement in academic activities. He is not motivated because school does not make sense to him. Lack of reading ability is of little concern for in many cases neither his parents nor his friends can read. So he accepts his failure and believes he is unable to learn to read.

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[2] Whipple, Gertrude, and Black, M. H., Reading for Children Without--Our Disadvantaged Youth, p. 17.

Veatch[3] described the procedures for individualized reading instruction. She stated that this approach demands resourcefulness on the part of the child. The child must accept the responsibility of finding and using materials that correct or develop the skills he needs. He must be able to engage in these developmental activities with little help from the teacher. In such a program the culturally deprived child would be expected to plan his own activities and work independently. Ausubel and Ausubel[4] found that disadvantaged children depended on external control and have difficulty in accepting responsibility. The teacher in a low socio-economic district may strive to interest the child in intellectual activities, gradually increasing the length and complexity of the tasks. But, without the ability and without seeing the usefulness of reading, this type of child cannot have activities contingent on reading.

Riessman[5] stated that the culturally deprived child needs structure, order, discipline, rules, and strong external demands for achievement. He stated that it appears that the strict, old-style, highly structured teacher is more effective and more popular with underprivileged children.

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[3] Veatch, Jeannette, "Classroom Organization: Structuring the Individual Reading Period," in _The Individualized Reading Program: A Guide for Classroom Teaching_, p. 19.

[4] Ausubel, D. P., and Ausubel, Pearl, "Characteristics of Socially Disadvantaged Children," by E. W. Gordon, _Review of Educational Research_ 33:382, December, 1965.

[5] Riessman, Frank, _The Culturally Deprived_ Child, p. 72.

Harris and Serwer[6] in the CRAFT project aimed to refute Riessman's concept of the type of learning needed for the disadvantaged child. The major comparison in their first grade reading methods study was a contrast of Riessman's approach, which emphasized structure, and a program using a progressive approach, which stressed ego-building and enrichment of experience and language. The results of the first year of the CRAFT project indicated that the children in the Skill-Centered Approach made significantly greater gains than those in the progressive, ego-building, enrichment approach. One of their conclusions was the following:

> After outcome measures were adjusted to eliminate differences in readiness, there were small but statistically significant differences in favor of the Skills-Centered Approach when all twelve classes were included. When the analysis was restricted to the nine schools with full-session schedules, the Skill-Centered Approach was still significantly higher than the Language-Experience Approach in silent reading and spelling. The Audio-Visual Method, however, equaled the results of the Skill-Centered Approach; the regular Language-Experience Method accounted for the difference between the two main approaches. Most of the obtained differences amounted to only one-tenth of a year in grade score, and therefore was of little practical consequence even when statistically different.[7]

The statement of the results indicated that the Audio-Visual Method may have influenced favorable the results of the Skills-Centered Approach which was a Basal Reader program. Harris and Serwer[8] stated that the project must be interpreted with caution. The statistically significant lead of the Skill-Centered Approach over the Language-Experience Approach was not large and could disappear during the second grade. Therefore, the conclusions of this study were tentative and would be subjected to further testing in the continuing project.

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[6] Harris, A. J., and Serwer, B. L., Comparison of Reading Approaches in First-Grade Teaching with Disadvantaged Children, p. 8.

[7] *Ibid*., p. 110.

Ellson and others[9] conducted 10 experiments using the technique of programed tutoring for teaching reading. Programed tutoring is a structured and externally motivated approach. They found that programed tutoring was effective when used alone or as a supplement to classroom teaching.

It appeared from Harris and Serwer's[10] study and from Harris'[11] study with directed tutoring that different interpretations are given to structured and externally motivated methods or approaches to teaching. The investigator believes that a structured and externally motivated program is one that is diagnostically oriented and directed by a teacher. Yet, without contrasting different interpretations of approaches, the above research reports indicated, at least to some extent, that a structured and individualized program can benefit disadvantaged children.

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[8] _Ibid_., p. 114.

[9] Ellson, D. G., and others, "Programmed Tutoring: A Teaching Aid and a Research Tool," _Reading Research Quarterly_ 1:77-127, Fall, 1965.

[10] Harris and Serwer, _op. cit_., 114 pp.

[11] Harris, P. L., _Experimental Comparison of Two Methods of Tutoring: Programed Versus Directed_, 147 pp.

Veatch[12] stated that the child must find materials that will help him develop needed skills. If disadvantaged children need a structured and externally motivated program, they cannot be expected to have the insight to recognize their needs. Neither do they have the experiential background to know what materials will interest them. The teacher must use many different materials and introduce each child to many and various books to stimulate interest.

The conference, an essential part of the individualized reading program, should give the teacher a knowledge of the child's progress that will enable her to evaluate the child's skill development and instructional needs. Observations made by teachers for the Harvard Report[13] revealed that many individualized reading teachers found it impossible to have pupil conferences oftener than once every one to three weeks. Children in deprived areas need frequent individual attention and structured guidance, for they enter the intermediate grades unable to read, with comprehension, primary level material.

The investigator concluded, therefore, that the popular concept of individualized reading and tutoring differed. The individualized program stresses internal motivation and self-direction. Tutoring emphasizes structured individualized instruction and external motivation.

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[12] Veatch, _op_. _cit_., p. 19.

[13] Austin, M. C., and Morrison, Coleman, _The First R. The Harvard Report on Reading in the Elementary School_, p. 90.

Diagnosis of Reading Abilities

The needs of the individual child can be determined by diagnosing his strengths and weaknesses. Research in this area tended to emphasize the use of diagnosis for remedial instruction in clinical or special program situations, yet the use of diagnosis in the classroom was considered essential by reading authorities. Strang[14] devoted seven chapters of her text, Diagnostic Teaching of Reading, to diagnostic procedures applicable in the classroom. Dechant[15] stated that a reading program is not complete without continuous diagnosis.

Vilscek[16] observed that teachers can individualize instruction in reading only if they employ instruments and procedures that determine the child's current and potential performance. Not only reading habits and skills but attitudes also should be appraised. Yet, determining habits.

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[14] Strang, Ruth, Diagnostic Teaching of Reading, pp. 1-115.

[15] Dechant, E. V., Improving the Teaching of Reading, p. 223.

[16] Vilscek, Elaine, "Individual Instruction," in Organizing for Individual Differences, pp. 54-55.

skills, and attitudes is useless if subsequent teaching and evaluation do not continue to guide individualized learning.

Bond and Dykstra[17] concluded from the results of the First Grade Studies that programs that encouraged teachers to study the needs of the children were more effective. They stated that a more diagnostic approach to the teaching of reading is needed. Teachers must know the reading program and the instructional needs of each child as he develops in his reading skills. "Programs that encourage the teacher to study children's problems and make instructional adjustments to their needs in word recognition, for example, are more effective than are those that adhere to a uniform pattern."[18]

The literature on diagnosis of reading abilities in the classroom reiterated the same ideas, namely, that diagnosis is needed and teachers have the responsibility to diagnose continuously in order to adjust instruction to the growth of the child. No controlled research was found.

The Tutorial Approach to Reading

Very little published material was found on the tutorial approach to teaching reading in the elementary school.

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[17] Bond, G. L., and Dykstra, Robert, "Interpreting the First Grade Reading Studies," in The First Grade Reading Studies:Findings of Individual Investigations, p. 7.

[18] Ibid., p. 8.

With the exception of four controlled studies, the reports that were available were descriptive. The investigator's purpose in reviewing available literature was to extract ideas and make inferences applicable to the present study. The conclusions were summarized at the end of the review.

Janowitz[19] explained the work of tutors in the After-School Study Centers in Chicago. Teachers and non-professional personnel tutored children who came to the Study Center for help. The children for whom the Study Center was most important were the underachievers, estimated by Janowitz in 1964, to be 30 percent of the school population. For these children who were not achieving adequately, tutoring was considered good reading instruction.

Whipple and Black[20] described a tutoring program in California. College students from 14 campuses met twice weekly with middle grade pupils who needed help in reading. The directors felt that retarded readers in the middle grades were beginning to doubt their ability to cope with society. The tutor was responsible for an individual project. He could seek expert help from the faculty of the college he attended and use the resource materials developed for tutors in Los Angeles. Although there was no statistical evaluation of the program, there were favorable comments by teachers and parents, and continued interest by tutors and pupils. The dropout rate was low.

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[19] Janowitz, Gayle, After-School Study Centers, 33 pp.

[20] Whipple and Black, op. cit., pp. 43-44.

In the School Volunteer Program,[21] a function of the New York City's Public School 141, volunteer tutors encouraged children to read by taking a personal interest in an individual child and by developing a program to meet the child's needs and interests. During the 1964-1965 school year, 10 Reading Help Programs were active in elementary schools, five in junior high schools and one in a senior high school. The Reading Help Volunteers worked twice weekly with 20,000 children. Initial data indicated that about 85 percent of the pupils who received help advanced from one to three years in reading achievement.

Sawyer[22] in a paper read at a pre-convention institute of the International Reading Association in April, 1968, described the work of college students at the North Carolina Advancement School. One of the objectives of the residential school was to help eighth grade students of good potential but poor achievement. The college students who tutored individual pupils after school or in the evening aimed at teaching the reading study skills, improving the pupils' self-concept and widening their horizons through discussions.

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[21] Ibid., pp. 51-52.

[22] Sawyer, J. M., "The Para-professional: A Report of Four Program," Unpublished paper delivered at the Pre-Convention Institute VI, International Reading Association, April 24, 1968.

Malpass[23] conducted a controlled research in which he compared two automated teaching procedures for retarded children. One procedure utilized a multiple choice method adapted from linear programing methods and multiple choice machines devised by Skinner and his colleagues. The other procedure utilized an automated typewriter keyboard apparatus designed by Syckoff based on principles reported by Omar Moore. Automated and tutorial instruction were studied. Retarded children enrolled in public school special education classes and institutionalized retardates comparable in intellectual status were taught word recognition, reading, and spelling.

Malpass[24] found that automated instruction was similar to tutoring. The use of both human and mechanical "machines" could present and reinforce conditions to suit the response of the individual child. Both could also provide immediate feedbacks to the learner. But, "human machines" appeared somewhat superior in these functions to the automated instructional procedures, particularly with respect to the multiple choice method. Significantly greater gains in word recognition and spelling favored the individual tutoring when compared with the multiple choice method. No significant differences were observed between the keyboard and tutorial methods.

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[23] Malpass, L. F., Comparison of Two Automated Teaching Procedures for Retarded Children, pp. 1-95.

[24] Ibid., p. 66.

Ellson and others[25] summarized the results of 10 experiments using the technique of programed tutoring for teaching reading. The tutors were professionally untrained persons whose behavior was programed according to principles of learning and programed instruction for individual teaching. The subjects were retarded children, slow readers and unselected populations of children in kindergarten and first grade. Results of the experiments were supported by statistical evidence. Besides the obvious result that teaching does take place with programed tutoring, the directors concluded the following:

> Combinations of programed tutoring with classroom teaching are more effective than classroom teaching alone; and, almost certainly, although evidence is less clear, more effective than programed tutoring alone. In combining the two techniques there is an optimum frequency of alternation which, at the moment, is believed to near once daily. In addition to teaching, there can be a 'Therapeutic' effect--programed tutoring reinstates effects of earlier learning or exposure to earlier teaching that are not otherwise apparent in the behavior of the children involved. In the programed tutoring situation children demonstrate abilities that they do not show in the classroom. There is some evidence limited to a few cases, that the favorable effects can extend to attitudes and behavior outside the classroom.[26]

In his report on the Mobilization for Youth, Inc. Project, Cloward[27] stated that in the 67-block segment,

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[25] Ellson, D. G., and others, "Programed Tutoring: A Teaching Aid and a Research Tool," _Reading Research Quarterly_ 1:77-127, Fall, 1965.

[26] _Ibid_.

[27] Cloward, R. D., _Studies in Tutoring_, pp. 1-103.

Manhattan's Low East Side, even with the addition of corrective reading teachers, reading achievement of the elementary school children was far below that reported for pupils in the city as a whole. In 1963, 70 percent of the third graders in Manhattan's Low East Side were below grade level in reading achievement. The reading specialists reached only few pupils and salary was high for these teachers. Cloward felt that the reading specialists, despite their superior technical skills, may not be in a better position to communicate with lower-class youth than the middle-class-oriented teacher typically found in the slum schools. He hypothesized that the older adolescents from the same social and economic strata as their pupils would be in a better position than the middle-class-oriented teacher to help the grade school pupils. The Mobilization tutorial program acted on this hypothesis. Studies conducted from November, 1963, to June, 1964, substantially evidenced that tenth and eleventh grade students, working as tutors under the supervision of expert teachers, were successful. Not only did the fourth and fifth grade pupils who were tutored gain significantly in reading achievement, but the tutors themselves gained significantly in their own reading achievement in a relatively short period of time. In this study the tutors were paid, for Cloward felt that the demands made on the tutors were much greater than those that could be expected of volunteer tutors.

Cloward's[28] study indicated also that those who had four hours of treatment per week improved more than the pupils who received two hours of treatment. The former showed significantly greater improvement than did the control group. The latter's rate of gain exceeded that of the control group but the difference was not statistically significant.

Harris[29] for his doctoral dissertation compared programed tutoring and directed tutoring. The programed tutoring followed Ellson's[30] tutoring program. The directed tutoring extended the current classroom method of teaching reading to an individual situation. The conclusions of this study based on statistical analysis indicated that, for the subjects in the study, those who received programed tutoring gained significantly more in reading achievement than those in the directed tutoring. Also, subjects who received programed tutoring twice daily made greater gains than those who received the programed tutoring once daily. It should be noted that this finding differed from Ellson's[31] conclusion that the optimum frequency of alternation of programed tutoring and classroom teaching neared once daily.

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[28] Ibid., p. 20.

[29] Harris, P. L., Experimental Comparison of Two Methods of Tutoring: Programed Versus Directed, pp. 1-67.

[30] Ellson and others, op. cit., pp. 77-127.

[31] Ibid.

Programed tutoring and directed tutoring were, however, in different stages of development. Ellson had conducted 10 experiments with programed tutoring that lead to its use as method of teaching. Materials and techniques had been developed. Harris was introducing directed tutoring for the first time. Materials and techniques had not been developed. Therefore, repeated investigations are needed to establish the relative benefits of programed tutoring compared with directed tutoring.

Directed tutoring somewhat resembled the present study. Differences occurred, though, in several cases. The tutors in Harris' study had only a high school education; in the present study the tutors were education majors concurrently taking the reading methods course. Directed tutoring implied sequential teaching of the reading skills but was not based on diagnosis of the child's strengths and weaknesses in the reading skills. In Harris' study the classroom materials were used for the directed tutoring. In the present study, supplementary materials different from those used in the classroom were used. Harris' study was with first grade pupils; the present study with fourth grade children.

Conclusions

The objective of reviewing literature on the teaching of reading was not to examine organizational plans and techniques for teaching reading. It is a known fact that regardless of organization or technique, some reading programs are successful and others are not. The review of literature indicated the value of diagnosis in reading in classroom situations. Controlled research in this area was not found.

The emerging literature on tutoring in reading formed the basis for the present experimental investigation. Inferences drawn from the few descriptive reports and the very limited research included the following:

1. Children in low socio-economic districts and the culturally disadvantaged are in desperate need of more and better reading instruction.

2. There is little or no hope of having the number of certified teachers needed to cope with the present school situation.

3. Program directors recognized the advantages of using tutors who were not certified teachers.

4. Program directors recognized the advantages of individual and small group instruction.

5. Diagnosing reading abilities, although not explicitly stated, formed the basis for tutoring successfully.

6. Most, if not all, children wanted to learn. This was evident from the fact that attendance was voluntary in many of the programs.

7. The middle grade pupils who were under-achievers in reading began to realize their inability to cope with society.

8. Although the use of volunteer tutors appeared beneficial in many projects, the use of paid tutors could be more advantageous.

9. The use of college students as tutors appeared to have great advantages for the children tutored and the college students themselves.

Finally, no controlled research study on a diagnostically structured tutoring program in reading as part of the regular classroom instruction was found in the review of the literature. Initiating such a program, however, using students majoring in elementary education as tutors, is not only educationally sound but needed in teacher education today.

CHAPTER III

EXPERIMENTAL METHODS AND PROCEDURES

Purpose of the Study

The purpose of this study was to test the effectiveness of a diagnostically structured tutoring program in reading. The tutors were students majoring in elementary education. The study was designed to determine statistically through a one-way analysis of variance if fourth grade pupils who were tutored as part of their regular classroom instruction made significantly greater gains in reading achievement than fourth grade pupils who received only the regular classroom instruction. The study also sought to determine if the pupils who were tutored individually made greater gains in reading achievement than pupils who were tutored in small groups. A subjective element, one that the investigator did not propose to include in the study, was the effect of the program on the tutors. This research, however, would not be complete without reference to this aspect of the study and, therefore, contains pertinent information about the tutors.

Design of the Study

The general experimental design included (1) the selection of the schools; (2) the selection of the subjects; (3) the selection of the tutors; (4) the training of the tutors; (5) the selection and administration of tests; and (6) the experimental treatment and procedures. The experiment was initiated September 5, 1967, and terminated April 5, 1968. The actual time of tutoring was six months, October 2, 1967, to April 1, 1968.

The statistical design was a one-way analysis of variance with randomized groups. The four treatment variables employed in this study were the following: (1) subjects tutored individually, (2) subjects tutored in small groups of three to five pupils, (3) subjects in the class control group, and (4) the subjects in the school control group. The analysis was based on the differences in gain in raw scores between the pre-test and progress test and the pre-test and post-test.

The Selection of Schools

Four schools in the lower socio-economic district of Dayton, Ohio, were selected for this study. These schools were judged comparable as to socio-economic level, cultural background, and mobility of pupils. Information about the basic characteristics of the schools' population was taken from a detailed report entitled Social Profile, Dayton Metropolitan Area[1] distributed by the Community Welfare Council of the Dayton Area in 1963. The socio-economic status of the subjects was relevant to this study only to the extent of controlling extraneous variables; therefore, it was judged sufficient to state that the tool used to determine the economic level was one used by "government, private agencies, and citizens' groups interested in improving the social environment of Dayton."[2] The subjects in the experimental groups and the classroom control group were a randomized cross section of the three schools. Table 1 shows information about the subject.

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[1] Social Profile, Dayton Metropolitan Area, pp. 1-18.

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[2] Ibid., p. i.

TABLE 1. COMPOSITE PUPIL CHARACTERISTICS

	Number of pupils	Kindergarten experience		Repeaters	Birthplace		Number of schools attended		Age			Sex		Race	
		Yes	No		Dayton	Other	One	More than one	9 yrs.	10 yrs.	11 yrs.	M	F	Neg.	Cau.
TI	47	34	13	14	38	9	32	15	19	21	7	21	26	38	9
TG	52	39	13	9	35	17	38	24	20	31	1	22	30	43	9
CC	59	49	10	9	48	11	32	27	24	30	5	35	24	51	8
SC	50	39	11	2	37	13	44	6	25	20	5	23	27	50	0

Legend: yrs. = years
Neg. = Negroid
Cau. = Caucasian

The four elementary schools selected for this study were assigned randomly as experimental or control schools; three, Schools A, B, and C, were the experimental, and one, School D, was the control school. The schools selected had no special reading programs in the fourth grade. All the schools had self-contained, fourth grade classrooms. The seven classroom teachers were certified by the state of Ohio. Table 2 shows pertinent information about the classroom teachers.

TABLE 2. TEACHER CHARACTERISTICS

	Mean age	Race		Degree			Educational background		Mean of experience		
		Neg.	Cau.	AB	MS	None	T.C.	L.A.C.	Yrs. teach.	Yrs. teach. Gr. 4	Yrs. at present assign.
Exp. Sch.	40	3	4	4	2	1	4	3	14	3	3
Con. Sch.	35	1	1	2	0	0	1	1	9	8	3

Legend: Neg. = Negroid
Cau. = Caucasian
T.C. = Teacher's College
L.A.C. = Liberal Arts College
teach. = teaching
Yrs. = Years
Gr. = Grade
Exp. = Experimental
Con. = Control
Sch. = School
assign. = assignment

The Selection of Subjects

All fourth grade pupils from the participating schools were the subjects of this study. They were divided into four groups; namely, (1) pupils in the experimental schools tutored individually; (2) pupils in the experimental schools tutored in small groups; (3) pupils in the experimental schools assigned to the classroom control group; and (4) a control group from the control school.

The subjects in each fourth grade classroom in the experimental schools were randomly assigned to be tutored individually, to be tutored in a small group, or to be in the classroom control group in the following manner:

1. Using the results of the California Reading Test, Form W, administered in September as the pre-test, the pupils were listed according to grade placement scores, highest to lowest.

2. The list of pupils from each classroom were then numbered consecutively, beginning with the highest grade placement score to the lowest.

3. Using the table of random numbers, the investigator preferred to assign subjects according to the following order: first, a pupil to be tutored individually; next, a pupil to be tutored in a small group; and thirdly, a pupil for the classroom control group.

4. The pupils were randomly assigned to the student-tutors.

Table 3 shows the number of pupils from each classroom who were selected to be tutored in October. Table 4 shows by schools the number of subjects in each group in the experimental school in September, the number in each group in January, and the number analyzed at the termination of the project in April. Several subjects were dropped from the analysis for lack of complete data. Table 5 shows the mean grade placement scores for participating groups obtained from the pre-test administered in September.

TABLE 3. CLASSROOM UNITS AND NUMBER OF PUPILS TUTORED IN OCTOBER

Room	401	402	403	404	405	406	407
Enrollment	25	23	25	27	23	23	32
Number tutored	17	17	17	17	16	16	18

TABLE 4. NUMBER OF SUBJECTS TUTORED IN THE EXPERIMENTAL SCHOOLS

	School A			School B			School C		
	TI	TG	CC	TI	TG	CC	TI	TG	CC
Sept.	27	24	23	16	18	16	15	18	22
Jan.	20	19	16	12	12	9	13	14	20
Apr.	18	18	16	11	12	9	13	13	20

TABLE 5. MEAN GRADE PLACEMENT SCORES FOR PARTICIPATING GROUPS IN SEPTEMBER AS MEASURED BY THE CALIFORNIA READING TEST, FORM W

TI	TG	CC	SC
3.27	3.38	3.27	3.41

It is readily seen that the groups were closely matched. In the school control group the mean is slightly higher.

The Selection of Tutors

The tutors in this study were students majoring in elementary education who volunteered to participate in the experiment. They were enrolled in the experimental section of Education 320, Reading and Language Arts in the Elementary School, at the University of Dayton, the first semester of the 1967-1968 school term. The tutors continued tutoring as part of their student teaching the second semester from January to April. The experimental section was taught by the investigator.

Four of the students were sophomores who were on a cadet program. Thirteen were juniors, and three were seniors. Although all tutored fourth grade pupils during the entire six months, each tutor selected the grade level desired for student teaching the second semester. Table 6 summarizes the educational background of the tutors.

TABLE 6. EDUCATIONAL LEVEL OF TUTORS IN THE EXPERIMENTAL SCHOOLS

	School A	School B	School C
Sophomores	3	0	1
Juniors	6	5	2
Seniors	1	0	2

The tutors worked in the same experimental school during the entire experiment. School A had three regular fourth grade classrooms and one special class. Ten tutors were assigned to this school. The special class in School A, although tutored, was not a part of the experimental study. Schools B and C had two fourth grade classrooms each. Five tutors were assigned to each of these schools.

Each tutor, in as far as this was possible, had two or three subjects to tutor individually and one or two groups to tutor. Table 7 shows the number of tutors who taught individuals and small groups, and the number of tutors who taught individuals only.

TABLE 7. COMPARISON OF NUMBER OF TUTORS IN EACH SCHOOL WHO TUTORED INDIVIDUALS AND/OR SMALL GROUPS

	Number of tutors in School A	Number of tutors in School B	Number of tutors in School C
Tutored individually and groups	6	4	4
Tutored individuals only	4	1	1

Professional Preparation of Tutors for the Experiment

Classes for Education 320, the reading methods course, were held five hours weekly during the first semester. In September, during the four weeks prior to initiating the tutoring sessions, the investigator developed with the tutors the principles and techniques of teaching reading in elementary school. The various definitions of reading were analyzed, a short review of research and current trends was presented, aims and objectives, especially the specific skills that should be taught to children, were discussed thoroughly. Three skills that were introduced at this time and redeveloped and stressed throughout the semester were the development of vocabulary, the word recognition skills, especially phonetic and structural analysis, and the development of the comprehension and interpretation skills by establishing a purpose for reading.

During September, the tutors prepared to initiate tutoring their respective pupils. The tutors studied and administered the Silent Reading Diagnostic Tests. After the tests were administered, each tutor corrected the tests of the pupils she would tutor. The results were discussed with the investigator who also guided the tutors in interpreting the various sections of the tests. The materials to be used for tutoring were examined. Purposes for using the available reading workbooks were established. The different machines, such as the tape recorder, film strip projector, the film strip viewer, the movie projector, and the listening stations were explained to the tutors. The tutors were guided in selecting and preparing materials that could be used for the tutoring sessions.

Other activities prior to initiating the tutoring sessions consisted of meeting the principals and teachers in the three experimental schools, observing the fourth grade classrooms, and studying the cumulative records of the pupils who would be tutored. Discussions were held on the necessity of good public relations in the schools and with the principals and teachers. The tutors were instructed to act professionally at all times.

At the beginning of October, a two-hour weekly seminar was added to the five hours required for the methods course. During the seminar the tutors discussed problems and shared ideas and techniques. Toward the end of the semester, the tutors used part of the seminar time to prepare materials.

The tutors kept a daily log which was summarized for a weekly written progress report (See Appendix A). The investigator used the weekly reports, besides her observations and the questions of the tutors, for continued professional guidance during the treatment period.

The investigator supervised the tutors throughout the treatment period. The supervision entailed observing the tutoring sessions and conferring with the individual tutor whenever possible. The conferences were informal and were held in the respective schools. Two formal conferences were held with each tutor the first semester. During the first conference, the tutor discussed her teaching plans and techniques. During the second conference in November, the tutor presented a detailed written report on the progress and achievement of her subjects (See Appendix C).

Experimental Treatment and Procedures

The daily reading period in the four selected schools was approximately one hour in length. The pupils who were tutored individually or in small groups, were instructed by the tutors for one-half hour, four days a week. The tutoring session was part of the subjects' daily reading instructional time. Therefore, all participating subjects, the experimental and the control, had the same length of time for daily reading instruction.

Originally, the reading skills taught by the tutors were based on (1) the results of the reading achievement test administered in September, and (2) the results of the diagnostic reading test administered by the tutors. Later instruction evolved from the observation, diagnosis, and evaluation of the subjects' performance during the treatment period.

The instructional plan for the one-half hour sessions consisted of the following:

1. Establishing motivation for reading
2. Establishing the readiness needed in the particular situation
3. Directing instruction toward the needed reading skills evidenced by the results of the achievement and diagnostic tests. The skills were as follows:
    a. auditory and visual perceptual skills
    b. word attack skills, including configuration clues, structural analysis and phonetic analysis
    c. comprehension skills, including the various skills needed for growth in vocabulary and for understanding and interpreting phrases, sentences, and larger units of language
    d. study skills, including dictionary skills, location and reference skills and organizational skills, and
    e. oral reading skills.
4. Developing a purpose in reading, and
5. Building interest and taste in recreational reading.

Methods for developing the reading skills were suggested by the investigator but freedom for logical development and the use of creative techniques was encouraged.

The tutors were responsible for developing long range and daily plans for teaching. They were also requested to include in each tutoring session the following:

1. The teaching of concepts and vocabulary through the use of audio-visual aids, such as pictures, models, film strips, films, and the overhead and opaque projectors.

2. Systematic teaching of the word recognition skills, using word recognition games when possible.

3. Teaching comprehension and interpretation especially through establishing a purpose for reading.

4. Oral reading.

5. Reading to the child or group if time permitted.

In November, the tutors outlined in detail a diagnostic report on each subject. From this report they formed short range and overall goals (See Appendix C).

In January, the tutors retrospectively analyzed their impressions of tutoring (See Appendix B). They also used the results of the Progress Test administered in January to diagnose further the subjects' strengths and weaknesses and to re-evaluate their teaching techniques and procedure.

The materials used for the tutored groups consisted of (1) published reading workbooks that were used for developing the various reading skills; (2) experience charts and stories; (3) library books; (4) pictures; and (5) audio-visual aids, such as the tape recorder, listening stations, short films, film strips, and other visual aids.

The Selection and Administration of Tests

The California Reading Test, a sub-test of the California Achievement Tests, was chosen as the testing instrument for analyzing the results of this study. A reading test was selected because of the purpose of this study, namely, to test the effectiveness of the program by studying the gains in vocabulary, comprehension, and total reading achievement during the six months' treatment period. Also, a reading test was selected as the pre-test because of the relationship of a standardized reading test to a group intelligence test. Both tests involve reading, and tend to measure the same categories of skills.[3] Therefore, the reading test would, to at least some extent, reduce the intelligence variable. The California Test was selected because it is part of the battery of tests used by the Dayton public schools. Thus, the California Test provided a basis for further evaluation and experimentation.

The California Reading Test, Form W, was administered as the pre-test to all fourth grade pupils in the four participating schools in September, 1967. The pre-test formed the basis for the random selection of subjects to the experimental and control groups and for determining the gain in reading achievement during the six months' period from October, 1967, to April, 1968. A progress test, Form Y, of the California Reading Test, was administered in January. As was stated previously, the progress test was administered in order to provide the tutors with another means to diagnose the subjects' abilities and to evaluate their teaching procedures and techniques. The first week of April, Form X, of the California Reading Test was administered as the posttest.

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[3] Wilson, R. M., Diagnostic and Remedial Reading, p. 31.

Tiegs and Clark[4] stated that the California Reading Test has content and construct validity. To establish content validity, the authors submitted the test items to research specialists, curriculum experts, college professors, and state department of education personnel to evaluate according to a definite rating scale. The author computed the average rating for each item and statistically determined the discriminating power of the items. The items were then combined for each of the four forms of the battery. Further evidence for the reading test, a sub-test of the California Achievement Tests, was obtained by correlating the California Achievement Tests with other reading tests. The correlations were reasonably high.[5]

The tutors administered the Silent Reading Diagnostic Test by G. L. Bond, T. Clymer, and C. J. Hoyt to all of the subjects in the tutored groups during the third week of September.

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[4] Tiegs, E. W., and Clark, W. W., Manual California Achievement Tests, Complete Battery, pp. 1-69.

[5] *Ibid*., pp. 12-13.

The Silent Reading Diagnostic Tests measure the following skills: (1) the recognition of words in isolation and in context, (2) a tendency to reversals, (3) recognition of common word elements, (4) syllabication and roots, and (5) phonetic skills in recognizing patterns, which included beginning and ending sounds, letter sounds and blending.

Restatement of Original Hypotheses in Relation to the Statistical Analysis of Data

A Biomedical Computer Program, BMDOIV, for a one-way design of the analysis of variance was used to analyze the data obtained from the California Reading Tests, Forms W, Y, and X, administered as the pre-test, the progress test, and the post-test respectively. Raw score differences between the pre-test and the progress test and the pre-test and the post-test determined the gains in vocabulary, comprehension, and total reading achievement of the four treatment groups. The level of significance for this study was set at .05.

For this study the following hypotheses were to be tested:

Hypothesis 1. There is no significant difference in gain in vocabulary, comprehension, and total reading achievement between the experimental groups, subjects tutored individually and in small groups as part of their regular classroom instruction, and the control groups, the classroom control and the school control.

Hypothesis 2. There is no significant difference in gain in vocabulary, comprehension, and total reading achievement between the subjects tutored individually as part of their regular classroom instruction and the subjects in the classroom control group or the school control group.

Hypothesis 3. There is no significant difference in gain in vocabulary, comprehension, and total reading achievement between the subjects tutored in small groups as part of their regular classroom instruction and the subjects in the classroom control group or the school control group.

Hypothesis 4. There is no significant difference in gain in vocabulary, comprehension, and total reading achievement between the subjects tutored individually as part of their regular classroom instruction and the subjects tutored in small groups as part of their regular classroom instruction.

Hypothesis 5. There is no significant difference in gain in vocabulary, comprehension, and total reading achievement between the subjects in the classroom control group and the subjects in the school control group.

CHAPTER IV

ANALYSIS OF DATA

The data in this chapter were analyzed according to the objectives of the study with respect to the four treatment groups. Specifically, the data were analyzed in this manner: (1) the pre-test and the progress test, and the pre-test and the post-test were analyzed statistically to determine if there was a difference between the treatment groups; and, (2) the pre-test and the progress test, and the pre-test and the post-test were treated to determine if there was a significant difference in gain in vocabulary, comprehension, and total reading achievement between the experimental groups and the control groups.

The effects of the treatment, tutoring in reading, were determined by a one-way analysis of variance. Before testing the hypotheses, an analysis of variance was made to determine the difference between the total treatment groups. Table 8 shows the mean differences in raw scores in January between the pre-test and the progress test as measured by The California Reading Tests, Forms W and Y. Table 9 shows the mean differences in raw scores in April between the pre-test and the post-test as measured by The California Reading Tests, Forms W and X.

TABLE 8. SUMMARY OF ANALYSIS OF VARIANCE FOR RAW SCORE DIFFERENCES BETWEEN PRE-TEST AND PROGRESS TEST ON THE CALIFORNIA READING TEST, FORMS W AND Y IN JANUARY

Source of variance	Sum of squares	df	Mean square	f-ratio
Vocabulary	732.3398	3	224.1133	6.7172**
Subjects	6577.8516	181	36.3417	
Total	7310.1914	184		
Comprehension	1531.5835	3	510.5278	9.8786**
Subjects	9354.1523	181	51.6804	
Total	10885.7356	184		
Total achievement	4085.1328	3	1361.7109	13.5504**
Subjects	18189.0664	181	100.4912	
Total	22274.1992	184		

Cell Means

Treatment group	Tutored individually	Tutored group	Classroom control	School control
Vocabulary	10.5333	8.1556	5.6889	5.7600
Comprehension	10.8000	9.7778	6.4667	3.6000
Total	21.3333	17.9333	12.4000	9.3600

**Significant at .01 level of confidence.

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TABLE 9. SUMMARY OF ANALYSIS OF VARIANCE FOR RAW SCORE DIFFERENCES BETWEEN PRE-TEST AND POST-TEST ON THE CALIFORNIA READING TEST, FORMS W AND X, IN APRIL

Source of variance	Sum of squares	df	Mean square	f-ratio
Vocabulary	334.0913	3	111.3638	
Subjects	7278.9492	177	41.1240	2.65*
Total	7613.0404	180		
Comprehension	929.8218	3	309.9404	
Subjects	10890.3359	177	61.5272	5.0374**
Total	11820.1567	180		
Total Achievement	2038.2812	3	679.4270	
Subjects	23731.0547	177	134.0737	5.0676**
Total	25769.3359	180		

Cell Means

Treatment group	Tutored individually	Tutored group	Classroom control	School control
Vocabulary	13.9286	11.7955	10.1111	11.2200
Comprehension	13.9048	13.3182	9.8000	8.6000
Total	27.8333	25.1136	19.9556	20.0200

*Significant at .05 level of confidence.
**Significant at .01 level of confidence.

For the progress test in January, the differences for vocabulary, comprehension, and total reading achievement were significant at the .01 level of confidence. For the post-test in April, the differences for comprehension and total reading achievement were significant at the .01 level of confidence; for the vocabulary subsection the difference was significant at the .05 level of confidence. Therefore, the hypotheses were tested and the results were reported for the January progress test and the April post-test respectively.

Hypothesis 1. There is no significant difference in gain in vocabulary, comprehension, and total reading achievement between the experimental groups, subjects tutored individually and in small groups as part of their regular classroom instruction, and the control groups, the classroom and the school control groups.

Table 10 shows the differences in raw scores in January between the combined experimental tutored groups and the combined control groups.

TABLE 10. SUMMARY OF ANALYSIS OF VARIANCE FOR RAW SCORE DIFFERENCES BETWEEN PRE-TEST AND PROGRESS TEST FOR COMBINED EXPERIMENTAL GROUPS AND COMBINED CONTROL GROUPS IN JANUARY

Source of variance	Sum of squares	df	Mean square	f-ratio
Vocabulary	605.0098	1	605.0098	
Subjects	6705.1797	183	36.6403	16.5121**
Total	7310.1895	184		
Comprehension	1313.4402	1	1313.4402	
Subjects	9572.2578	183	52.3074	25.1100**
Total	10885.6981	184		
Total achievement	3606.1455	1	3606.1455	
Subjects	18667.8906	183	102.0103	35.3508**
Total	22274.0361	184		

Cell Means

Treatment group	Experimental	Control
Vocabulary	9.3444	5.7263
Comprehension	10.2889	7.4218
Total	19.6333	10.8000

**Significant at the .01 level of confidence.

For the progress test the differences in vocabulary, comprehension, and total reading achievement were significant at the .01 level. In January, the tutored groups achieved significantly greater gains in reading than the combined control groups.

The progress test in January was administered for the benefit of the tutors. Administering the re-test in January and in April indicated also if the effect of the newness or novelty of the experimental program resulted in accelerated gains in achievement during the first few months for the experimental subjects or whether there was continuous growth in achievement for the experimental groups. The post-test results indicated the effectiveness of the treatment for the experimental groups at the end of six months.

Table 11 shows the differences in raw scores in April between the combined experimental tutored groups and the combined control groups.

TABLE 11. SUMMARY OF ANALYSIS OF VARIANCE FOR RAW SCORE DIFFERENCES BETWEEN PRE-TEST AND POST-TEST FOR COMBINED EXPERIMENTAL GROUPS AND COMBINED CONTROL GROUPS IN APRIL

Source of variance	Sum of squares	df	Mean square	f-ratio
Vocabulary	207.1923	1	207.1923	
Subjects	7405.8477	179	41.3735	5.0079*
Total	7613.0400	180		
Comprehension	888.3237	1	888.3237	
Subjects	10931.7852	179	61.0714	14.5457**
Total	11820.1089	180		
Total achievement	1879.2361	1	1879.2361	
Subjects	23889.9727	179	133.4635	14.0805**
Total	25769.2088	180		

Cell Means

Treatment group	Experimental	Control
Vocabulary	12.8372	10.6947
Comprehension	13.6047	9.1684
Total	26.4418	19.9895

*Significant at the .05 level of confidence.
**Significant at the .01 level of confidence.

For the post-test the difference in vocabulary was significant at the .05 level. The differences in comprehension and total reading achievement were significant at the .01 level. The combined experimental tutored groups achieved significantly greater gains in vocabulary, comprehension, and total reading achievement than the combined control groups. Therefore, Hypothesis 1, which stated there is no significant difference in vocabulary, comprehension, and total reading achievement between the experimental tutored group and the control groups was rejected.

The comparison demonstrated in Tables 10 and 11 combined the two experimental tutored groups and the two control groups to determine the effectiveness of the tutoring program. The following four hypotheses compared separately each experimental tutored group and each control group.

Hypothesis 2. There is no significant difference in gain in vocabulary, comprehension, and total reading achievement between the subjects tutored individually as part of their regular classroom instruction and the subjects in the classroom control group or the school control group.

Tables 12 and 13 show the differences in raw scores in January and April respectively, between the subjects tutored individually and the subjects in the classroom control.

TABLE 12. SUMMARY OF ANALYSIS OF VARIANCE FOR RAW SCORE DIFFERENCES BETWEEN PRE-TEST AND PROGRESS TEST FOR SUBJECTS TUTORED INDIVIDUALLY AND CLASSROOM CONTROL IN JANUARY

Source of variance	Sum of squares	df	Mean square	f- ratio	Level of confidence
Vocabulary	528.0439	1	528.0439		
Subjects	3184.8352	88	36.1913	14.5904**	.01
Total	3712.8792	89			
Comprehension	422.5000	1	422.5000		
Subjects	4534.3906	88	51.5272	8.1996**	.01
Total	4956.8906	89			
Total achievement	1795.5903	1	1795.5903		
Subjects	8484.7773	88	96.4179	18.6230**	.01
Total	10280.3672	89			

**Significant at the .01 level of confidence.

TABLE 13. SUMMARY OF ANALYSIS OF VARIANCE FOR RAW SCORE DIFFERENCES BETWEEN PRE-TEST AND POST-TEST FOR SUBJECTS TUTORED INDIVIDUALLY AND CLASSROOM CONTROL IN APRIL

Source of variance	Sum of squares	df	Mean square	f-ratio	Level of confidence
Vocabulary	316.5859	1	316.5859		
Subjects	3423.2217	85	40.2732	7.8610	.01
Total	3739.8076	86			
Comprehension	366.0310	1	366.0310		
Subjects	5230.8086	85	61.5389	5.9480	.05
Total	5596.8359	86			
Total achievement	1348.1804	1	1348.1804		
Subjects	10981.7148	85	129.1966	10.4351	.01
Total	12329.8945	86			

For the progress test the differences in vocabulary, comprehension, and total reading achievement were significant at the .01 level. For the post-test the differences in vocabulary and total reading achievement were significant at the .01 level; the difference in comprehension was significant at the .05 level. The subjects tutored individually made greater gains in vocabulary, comprehension, and total reading achievement than the subjects in the classroom control.

Tables 14 and 15 show the differences in raw scores for the progress test and the post-test, for the subjects tutored individually and the subjects in the school control.

TABLE 14. SUMMARY OF ANALYSIS OF VARIANCE FOR RAW SCORE DIFFERENCES BETWEEN PRE-TEST AND PROGRESS TEST FOR SUBJECTS TUTORED INDIVIDUALLY AND SCHOOL CONTROL IN JANUARY

Source of variance	Sum of squares	df	Mean square	f-ratio
Vocabulary	539.6375	1	539.6375	
Subjects	3574.3103	93	38.4334	14.0408**
Total	4113.9453	94		
Comprehension	1227.7896	1	1227.7896	
Subjects	5627.1875	93	60.5074	20.2916**
Total	6854.9766	94		
Total achievement	3395.3826	1	3395.3826	
Subjects	10101.4844	93	108.6181	31.2598**
Total	13496.8633	94		

**Significant at the .01 level of confidence.

TABLE 15. SUMMARY OF ANALYSIS OF VARIANCE FOR RAW SCORE DIFFERENCES BETWEEN PRE-TEST AND POST-TEST FOR SUBJECTS TUTORED INDIVIDUALLY AND SCHOOL CONTROL IN APRIL

Source of variance	Sum of squares	df	Mean square	f-ratio
Vocabulary	167.4603	1	167.4603	
Subjects	3933.3569	90	43.7040	3.8317
Total	4100.8164	91		
Comprehension	642.3372	1	642.3372	
Subjects	5529.6055	90	61.4400	10.4547**
Total	6171.9414	91		
Total achievement	1393.4905	1	1393.4905	
Subjects	12218.7656	90	135.7641	10.2641**
Total	13612.2539	91		

**Significant at the .01 level of confidence.

For the progress test, the differences in vocabulary, comprehension, and total reading achievement were significant at the .05 level. For the post-test, the differences in comprehension and total reading achievement were significant at the .05 level, but the difference in vocabulary was not significant. The subjects tutored individually made significantly greater gains in all three areas in January. In April, the subjects tutored individually made significantly greater gains in comprehension and total reading achievement but not in vocabulary. Therefore, Hypothesis 2, which stated that there is no significant difference in gain in vocabulary, comprehension, and total reading achievement between the subjects tutored individually as part of their regular classroom instruction and the subjects in the classroom control group or the school control group, could not be rejected in its entirety. However, the f-ratio for vocabulary (3.8317) in April was significant at the .10 level indicating that even in vocabulary the subjects tutored individually benefited by the tutoring program.

Hypothesis 3. There is no significant difference in gain in vocabulary, comprehension, and total reading achievement between the subjects tutored in small groups as part of their regular classroom instruction and the subjects in the classroom or the school control.

Tables 16 and 17 show the differences in raw scores for the progress test and the post-test respectively for the subjects tutored in small groups and the subjects in the classroom control.

TABLE 16. SUMMARY OF ANALYSIS OF VARIANCE FOR RAW SCORE DIFFERENCES BETWEEN PRE-TEST AND PROGRESS TEST FOR SUBJECTS TUTORED IN SMALL GROUPS AND CLASSROOM CONTROL IN JANUARY

Source of variance	Sum of squares	df	Mean square	f-ratio
Vocabulary	136.9000	1	136.9000	
Subjects	3003.9454	88	34.1312	4.0110*
Total	3140.4453	89		
Comprehension	246.6776	1	246.6776	
Subjects	3726.9697	88	42.3519	5.8245*
Total	3973.6472	89		
Total achievement	688.8994	1	688.8994	
Subjects	8087.5820	88	91.9043	7.4958**
Total	8776.4805	89		

*Significant at the .05 level of confidence.
**Significant at the .01 level of confidence.

TABLE 17. SUMMARY OF ANALYSIS OF VARIANCE FOR RAW SCORE DIFFERENCES BETWEEN PRE-TEST AND POST-TEST FOR SUBJECTS TUTORED IN SMALL GROUPS AND CLASSROOM CONTROL IN APRIL

Source of variance	Sum of squares	df	Mean square	f-ratio
Vocabulary	63.1156	1	63.1156	
Subjects	3345.5942	87	38.4551	1.6413
Total	3408.7097	88		
Comprehension	275.3672	1	275.3672	
Subjects	5360.7344	87	61.6176	4.4690*
Total	5636.1016	88		
Total achievement	591.9048	1	591.9048	
Subjects	11512.2891	87	132.3251	4.4731*
Total	12104.1914	88		

*Significant at the .05 level of confidence.

In January, the differences in vocabulary, comprehension, and total reading achievement were significant at the .05 level. In April, the differences in comprehension and total reading achievement were significant at the .05 level, but the difference in vocabulary was not significant. The subjects tutored in small groups made significantly greater gains in all three areas in January. In April, the subjects tutored in small groups made significantly greater gains in comprehension and total reading achievement but not in vocabulary.

Tables 18 and 19 show the differences in raw scores for the progress test and the post-test respectively for the subjects tutored in small groups and the subjects in the school control.

TABLE 18. SUMMARY OF ANALYSIS OF VARIANCE FOR RAW SCORE DIFFERENCES BETWEEN PRE-TEST AND PROGRESS TEST FOR SUBJECTS TUTORED IN SMALL GROUPS AND SCHOOL CONTROL IN JANUARY

Source of variance	Sum of squares	df	Mean square	f-ratio
Vocabulary	135.9162	1	135.9162	
Subjects	3393.0205	93	36.4841	3.7254
Total	3528.9365	94		
Comprehension	903.9062	1	903.9062	
Subjects	4819.7656	93	51.8254	17.4414*
Total	5723.6719	94		
Total achievement	1740.8376	1	1740.8376	
Subjects	9704.2891	93	104.3472	16.6831**
Total	11445.1250	94		

*Significant at the .05 level of confidence.
**Significant at the .01 level of confidence.

TABLE 19. SUMMARY OF ANALYSIS OF VARIANCE FOR RAW SCORE DIFFERENCES BETWEEN PRE-TEST AND POST-TEST FOR SUBJECTS TUTORED IN SMALL GROUPS AND SCHOOL CONTROL IN APRIL

Source of variance	Sum of squares	df	Mean square	f-ratio
Vocabulary	7.7503	1	7.7503	
Subjects	3855.7295	92	41.9101	0.1849
Total	3863.4797	93		
Comprehension	521.0073	1	521.0073	
Subjects	5659.5312	92	61.5166	8.4694**
Total	6180.5352	93		
Total achievement	607.2295	1	607.2295	
Subjects	12749.3398	92	138.5798	4.3818*
Total	13356.5664	93		

*Significant at the .05 level of confidence.
**Significant at the .01 level of confidence.

In January, the differences in comprehension and total reading achievement were significant at the .01 level, but the difference in vocabulary was not significant. In April, the difference in comprehension was significant at the .01 level; the difference in total reading achievement was significant at the .05 level, but the difference in vocabulary was not significant. The subjects tutored in small groups made significantly greater gains in comprehension and total reading achievement than the subjects in the school control but failed to make greater gains in vocabulary. Therefore, Hypothesis 3, which stated that there is no significant difference in gain in vocabulary, comprehension, and total reading achievement between the subjects tutored in small groups as part of their regular classroom instruction and the subjects in the classroom control in the school control, could not be rejected in its entirety because of the failure to attain a significant difference in vocabulary.

Hypothesis 4. There is no significant difference in gain in vocabulary, comprehension, and total reading achievement between the subjects tutored individually as part of their regular classroom instruction and the subjects tutored in small groups as part of their regular classroom instruction.

Tables 20 and 21 show the differences in raw scores for the progress test and the post-test respectively for the subjects tutored individually and the subjects tutored in small groups.

TABLE 20. SUMMARY OF ANALYSIS OF VARIANCE FOR RAW SCORE DIFFERENCES BETWEEN PRE-TEST AND PROGRESS TEST FOR SUBJECTS TUTORED INDIVIDUALLY AND SUBJECTS TUTORED IN SMALL GROUPS IN JANUARY

Source of variance	Sum of squares	df	Mean square	f-ratio
Vocabulary	127.2112	1	127.2112	
Subjects	2925.1018	88	33.2398	3.8271
Total	3052.3130	89		
Comprehension	23.5110	1	23.5110	
Subjects	4370.9648	88	49.6700	0.4733
Total	4394.4727	89		
Total achievement	260.1038	1	260.1038	
Subjects	8258.7812	88	93.8498	2.7715
Total	8518.8828	89		

TABLE 21. SUMMARY OF ANALYSIS OF VARIANCE FOR RAW SCORE DIFFERENCES BETWEEN PRE-TEST AND POST-TEST FOR SUBJECTS TUTORED INDIVIDUALLY AND SUBJECTS TUTORED IN SMALL GROUPS IN APRIL

Source of variance	Sum of squares	df	Mean square	f-ratio
Vocabulary	97.7761	1	97.7761	
Subjects	3351.9360	84	39.9040	2.4503
Total	3449.7122	85		
Comprehension	7.3936	1	7.3936	
Subjects	5177.1523	84	61.6328	0.1200
Total	5184.5430	85		
Total achievement	158.9424	1	158.9424	
Subjects	11870.2070	84	141.3120	1.1248
Total	12029.1484	85		

In January and in April, the differences in vocabulary, comprehension, and total reading achievement were not significant. Therefore, Hypothesis 4, which stated that there is no significant difference in gain in vocabulary, comprehension, and total reading achievement between the subjects tutored individually as part of their regular classroom instruction and the subjects tutored in small groups as part of their regular classroom instruction, was not rejected. In January, however, the difference in vocabulary was significant at the .10 level, indicating that the subjects tutored individually made significantly greater gains in vocabulary than the subjects tutored in small groups during the first three months of treatment.

Hypothesis 5. There is no significant difference in gain in vocabulary, comprehension, and total reading achievement between the subjects in the classroom control and the subjects in the school control.

Tables 22 and 23 show the differences in raw scores for the progress test and the post-test, respectively, for the subjects in the classroom control and the subjects in the school control.

TABLE 22. SUMMARY OF ANALYSIS OF VARIANCE FOR RAW SCORE DIFFERENCES BETWEEN PRE-TEST AND PROGRESS TEST FOR CLASSROOM CONTROL AND SCHOOL CONTROL IN JANUARY

Source of variance	Sum of squares	df	Mean square	f-ratio
Vocabulary	0.1198	1	0.1198	
Subjects	3652.7539	93	39.2769	0.0030
Total	3652.8735	94		
Comprehension	194.6314	1	194.6314	
Subjects	4983.1875	93	53.5827	3.6324
Total	5177.8164	94		
Total achievement	218.8798	1	218.8798	
Subjects	9930.2852	93	106.7773	2.0499
Total	10149.1641	94		

TABLE 23. SUMMARY OF ANALYSIS OF VARIANCE FOR RAW SCORE DIFFERENCES BETWEEN PRE-TEST AND POST-TEST FOR CLASSROOM CONTROL AND SCHOOL CONTROL IN APRIL

Source of variance	Sum of squares	df	Mean square	f-ratio
Vocabulary	29.1229	1	29.1229	
Subjects	3927.0151	93	42.2260	0.6897
Total	3956.1379	94		
Comprehension	34.1053	1	34.1053	
Subjects	5713.1875	93	61.4321	0.5552
Total	5747.2891	94		
Total achievement	0.0983	1	0.0983	
Subjects	11860.8477	93	127.5360	0.0008
Total	11860.9453	94		

In both January and April, the differences in gain in vocabulary, comprehension, and total reading achievement were not significant. Therefore, Hypothesis 5, which stated that there is no significant difference in gain in vocabulary, comprehension, and total reading achievement between the subjects in the classroom control and the subjects in the school control, was not rejected.

The following is a summary of the analysis of variance based on the raw score differences as measured by the California Reading Tests, Forms W, Y, and X:

1. The subjects who were tutored made significantly greater gains in reading achievement than the subjects in the control groups.

2. The subjects tutored individually made significantly greater gains in vocabulary, comprehension, and total reading achievement than the subjects in the control groups.

3. The subjects tutored in small groups made significantly greater gains in comprehension and total reading achievement than the subjects in the control groups.

4. In January, the subjects tutored in small groups made significantly greater gains in vocabulary than the subjects in the classroom control. In April, the subjects tutored in small groups did not show significantly greater gains in vocabulary than the subjects in the classroom control.

5. The subjects tutored in small groups did not make significantly greater gains in vocabulary than the subjects in the school control.

6. The subjects tutored individually did not make significantly greater gains in vocabulary, comprehension, or total reading achievement than the subjects tutored in small groups.

7. The subjects in the classroom control did not make significantly greater gains in vocabulary, comprehension, or total reading achievement than the subjects in the school control.

Discussion

The evidence for the positive results of this study was presented in the statistical analysis of the data. However, an explanation of certain aspects of the statistical analysis and an evaluative report on the relation between the experimental study and the tutors involved in the program explicate the results of the study.

Statistically both the individually tutored subjects and the group tutored subjects made significantly greater gains in reading achievement than the subjects in the control groups. In most areas the f-ratios for the individually tutored subjects indicated greater gains significant at the .01 level. Although the subjects tutored in small groups showed significantly greater gains in reading achievement than the subjects in the control groups, the f-ratios were significant at the .05 level. The gain in means favored the individually tutored group. Therefore, it seemed reasonable to conclude that the subjects tutored individually profited more from their treatment than the subjects tutored in small groups.

In this study the random selection of subjects may have conditioned the progress of the subjects tutored in small groups. The range of achievement for the subjects tutored in small groups was greater than one year. Their possible potential gain could have been still greater. Providing for individual differences within the small groups presented a problem which could not be resolved.

Two observations of the analyzed data related to the subjects in the classroom control and the school control. The hawthorne effect on the classroom control group was not evidenced in a positive manner. The possibilities for greater achievement for the subjects in the classroom control could not be determined. A diagnostically structured program using materials different from those used in the classroom plus the individual attention received by the culturally deprived tutored subjects could have had a negative effect upon the classroom control group.

During the second semester, the school control group increased drastically its gains in vocabulary, comprehension, and total reading achievement. The means indicated that this group more than doubled its gains from January to April. No apparent reason was found for the accelerated progress of these subjects. No special reading program had been in effect in the fourth grades in the control school. It was reported, however, that the development of the study skills had been emphasized. The California Reading Test measures achievement in informational skills. The structured program followed in this study aimed to develop general vocabulary and reading comprehension.

The report of the statistical analysis of the data did not completely evaluate the present study. The tutors, students majoring in elementary education, were determining factors not only for the subjects' growth in reading achievement as revealed in the statistical report, but also for ascertaining the advantages of integrating theory and practice in the reading methods course. Reports made by the tutors to the investigator and the observations by the investigator of the tutors' performance comprised the basis for the following subjective evaluation.

The tutors' weekly progress reports written for the investigator revealed certain attitudes toward the subject's level and rate of learning and toward teaching techniques. The majority of the tutors accepted each child at his level and rate for learning and followed a structured program. However, some tutors showed a negative attitude toward the child. They viewed the child's learning level and rate according to preconceived standards for fourth grade pupils. They emphasized in their weekly reports the child's lack of knowledge of the reading skills, the child's inability to learn the skills taught during the tutoring sessions, and discipline problems. These tutors did not experience success until they consciously developed a positive attitude toward the children.

Another relatively small group of tutors appeared to have preconceived ideas about teaching techniques. They replaced the structured program, outlined by the investigator, with unit activities, and failed to have specific and definite objectives for developing the reading skills. The detailed diagnostic report on each child written at the beginning of November influenced these tutors to adhere to a structured program, but yet be aware of the child's interests and unit activities whenever possible.

The tutors' use of visual aids and reading materials on the child's reading level had a positive influence on the child's desire to learn. Motivation, built on success achieved in the school environment, transferred to the classroom. One classroom teacher remarked that the tutored children now wanted to learn.

The tutors viewed the entire experimental program more from the benefits they themselves derived than from the results of the tutoring for the participating children. The extent to which the tutors benefited from the study could be judged subjectively only by the investigator and the tutors. The investigator, who has supervised student teachers for several years, observed that the tutors had greater insight into the responsibilities of teaching and into developing effective teaching techniques and procedures. The tutors reported what they felt to be the advantages and disadvantages of the tutoring program. Although each tutor expressed her ideas differently (See Appendix D), the following two reports represented the reactions of most of the tutors:

> Of all my education courses, the best experience I have received was working with this tutorial program. This was experience in a true sense. My education courses until this year were strictly theory and no practice. Tutoring gave meaning to all the various ideas and theories presented in my other courses.
>
> Tutoring has set the goals for my student teaching, and has given me a chance to experiment with my own ideas and ingenuity. The most important aspect of tutoring was showing me that every child is an individual. This, in itself, was the best lesson I could have learned, because when I started my student teaching I looked for and could distinguish these individual differences in my twenty-six first graders. Through tutoring I found that the use of visual aids can give, what would normally be an average presentation, added interest and motivation. Therefore, in my student teaching, I was not afraid to use visual aids and I felt that these aids made my teaching better than average. Thirdly, tutoring showed me that a definite schedule, although it can be flexible, is a necessity. By having a basic planned lesson, I discovered what and how long a lesson should be, and yet be flexible in my presentation.
>
> As for drawbacks in the tutorial program, I found that I should have been more of a teacher than a friend to the children. This probably was not as much a drawback to tutoring as it was to developing a lack of confidence on my part as a capable teacher. Another disadvantage was being in my classroom during student teaching only a half a day instead of the normal full

> day. However, I don't feel that I missed that much. It was only the personal experiences of the children that I missed, and they did their best to keep me informed on all that went on in the mornings.
>
> I was very happy with the tutorial program. It served as a preview to the ideas and equipment used in actual teaching, and gave me some confidence with which to enter student teaching.

Another tutor summarized the advantages and disadvantages as follows:

> Advantages:
>
> 1. I feel that we gained knowledge from this course that could never have been learned in the classroom. The best way to learn is through experiencing.
>
> 2. Every tutor was given the opportunity to familiarize herself with every possible visual aid, and through this to learn the importance of using these aids.
>
> 3. The reading skills were taught to us as well as the children.
>
> 4. In this program we were able to get experience with lesson plans and actual teaching before going into a classroom. I think we had a great advantage over other student teachers.
>
> 5. We were able to see children as individuals, and we became aware of the fact that no two children are the same.
>
> Disadvantages:
>
> 1. There should be a longer period of observation before tutoring begins. Because we were not afforded the opportunity to observe more classes I think we were handicapped in student teaching.
>
> 2. The children should be grouped according to level. If the children are grouped according to level they are more likely to benefit from one another, and it would be easier for the tutor to plan and present lessons.

> 3. A longer period for full-time student teaching should be allowed.
>
> 4. More instruction on lesson plans should be given.
>
> 5. The program should be extended to different grade levels.
>
> This program entailed very much work, but I think the benefits gained were well worth the effort. I think that there was much pressure at times with 13 other credit hours of work. Aside from this I cannot say I have regretted participating in the program. I most certainly would participate again if I had it to do over.

Therefore, just as in most comprehensive studies, formal tests alone cannot determine all the results, so it was with the present diagnostically structured program. Statistical data revealed the significant gain in achievement for the subjects, while subjective analysis revealed the problems and progress of the tutors, majors in elementary education, who concurrently learned the theory and practical application of teaching reading through an individualized structured reading program.

CHAPTER V

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

This study evaluated the gains in reading achievement of 180 fourth grade pupils who participated in the experiment.

Purpose of the study: The purpose of this study was to determine the effectiveness of a diagnostic and structured tutoring program in reading conducted by students majoring in elementary education. The study also attempted to determine if fourth grade pupils who were tutored as part of their regular classroom instruction achieved significantly greater gains in reading achievement than fourth grade pupils who received only regular classroom instruction. Further, the study attempted to determine if the pupils who were tutored individually achieved greater gains in reading achievement than the pupils who were tutored in small groups.

Selection of schools: Four elementary schools in a low socio-economic district of Dayton, Ohio, were selected for this study. One school was randomly selected as the control and the three remaining schools became the experimental schools.

Selection of subjects: All the fourth grade pupils in the four schools participated in the study. In the three experimental schools the fourth grade pupils in each classroom were randomly assigned to one of the following groups: (1) subjects to be tutored individually; (2) subjects to be tutored in small groups; and (3) subjects in the classroom control. In the control school two of the three classrooms were randomly selected and all of the children in the two selected classrooms composed the school control group.

Selection of tutors: The tutors were students majoring in elementary education. All volunteered for the experimental section of the Reading and Language Arts methods course during the first semester of the 1967-1968 academic year and combined tutoring with student teaching during the second semester.

Training of tutors: During the first semester, September 5 to December 19, the investigator instructed the tutors during the five weekly class hours required for the Reading and Language Arts methods course. In September, the principles and techniques for teaching reading were introduced, diagnostic tests were studied, and the materials available for use with the treatment groups were introduced and evaluated.

After the tutoring sessions began in October, the investigator supervised the tutors and conferred with them regarding teaching techniques and the progress of the pupils. In addition, from October to April, the investigator directed a two-hour weekly seminar for the tutors.

The selection and administration of tests: The California Reading Test, a sub-test of the California Achievement Tests, was chosen as the testing instrument for analyzing the results of this study. A reading test was selected because of the purpose of this study, namely, to test the effectiveness of the program by studying the gains in vocabulary, comprehension, and total reading achievement during the six months' treatment period. The California Test was selected because it is part of the battery of tests used by the Dayton public schools. Thus, the California Test provided a basis for further evaluation and experimentation.

The California Reading Test, Form W, was administered as the pre-test to all fourth grade pupils in the four participating schools in September, 1967. The pre-test formed the basis for determining the gain in achievement in vocabulary, comprehension, and total reading achievement for all subjects for the progress test in January and for the post-test in April at the termination of the six months' treatment period. The California Reading Test, Form Y, was administered for the progress test in January; the California Reading Test, Form X, was administered for the post-test in April.

The Silent Diagnostic Tests by Bond, Clymer, and Hoyt were administered to all tutored subjects before initiating the tutoring sessions. This test was used because it was a group diagnostic test and served the purpose of analyzing the subjects' silent reading skills. In addition, the diagnostic test gave the tutors a starting point for reading instruction.

Experimental treatment and procedures: The treatment period was for six months, October 2, 1967, to April 5, 1968. The subjects in the experimental groups who were tutored individually or in small groups, were instructed by the tutors for one-half hour, four days a week. The tutoring sessions were part of the subjects' daily reading instructional time. The tutors based their instruction on the results of the reading achievement test administered in September, the diagnostic test administered by the tutors, and the tutors' continued observations and diagnosis.

Statistical analysis: A biomedical Computer Program, BMDIV, for a one-way design of the analysis of variance was used to anlayze the data obtained from the California Reading Tests, Forms W, Y, and X, administered as the pre-test in September, as the progress test in January, and as the post-test in April, respectively. Raw score differences between the pre-test and the progress test and the pre-test and the post-test determined the gain in vocabulary, comprehension, and total reading achievement of the four treatment groups. The level of significance was set at the .05 level.

Findings

The mean differences as determined by the one-way analysis of variance between the pre-test and the progress test and the pre-test and the post-test indicated the following:

1. The subjects who were tutored made significantly greater gains in vocabulary, comprehension, and total reading achievement than the subjects in the control groups.

2. The subjects tutored individually made significantly greater gains in vocabulary, comprehension, and total reading achievement than the subjects in the control groups.

3. The subjects tutored in small groups made significantly greater gains in comprehension and total reading achievement than the subjects in the control groups.

4. In January, the subjects tutored in small groups made significantly greater gains in vocabulary than the subjects in the classroom control. In April, the subjects tutored in small groups did not show significantly greater gains in vocabulary than the subjects in the classroom control.

5. The subjects tutored in small groups did not make significantly greater gains in vocabulary than the subjects in the school control.

6. The subjects tutored individually did not make significantly greater gains in vocabulary, comprehension, or total reading achievement than the subjects tutored in small groups.

7. The subjects in the classroom control did not make significantly greater gains in vocabulary, comprehension, or total reading achievement than the subjects in the school control.

Conclusions

From the statistical analysis of the data, the following conclusions were made:

1. Tutoring as part of the regular classroom instruction is effective. It increased significantly the gains in vocabulary, comprehension, and total reading achievement for the combined tutored groups.

2. Individualized tutoring proved to be more effective than small group tutoring. The positive results for group tutoring for gain in comprehension indicated, however, that group tutoring was effective as part of the regular classroom instruction.

3. The experimental program produced greater gains during the first semester than the second semester. There were significant gains, however, during both semesters.

4. The school control group more than doubled its gains in vocabulary, comprehension, and total reading achievement the second semester as evidenced by the cell means in January and April.

5. The effectiveness of the program provided research evidence for the positive values of (1) a diagnostically structured reading program; and (2) individual attention for culturally deprived children.

Other conclusions from this study were the following:

1. The use of students majoring in elementary education as tutors was advantageous for the tutoring program.

2. Students in elementary education benefited by applying in practice the theories and techniques presented in the reading methods course.

3. Since the program proved effective for both the subjects tutored and the tutors themselves, the study can be considered as research evidence of its positive value for teacher education.

Recommendations

Recommendations based on the present study were as follows:

1. The effectiveness of any experimental program can be tested further by long range results. Since the Dayton public schools administer the California Achievement Test to all fifth grade pupils, the results of the reading test should be analyzed statistically to determine the continued gain in achievement for the subjects who participated in this study.

2. Other experiments should be planned and executed to test further the effectiveness of individualized tutoring.

3. Experiments should be conducted to test the effectiveness of tutoring all the children in classroom units.

4. Since the study evidenced the effectiveness of tutoring small groups, the research design should be refined to test further the advantages of reaching more children through small group tutoring.

5. Since the school control showed such great gains during the second semester, experiments should be conducted to determine critical periods of learning during the school year.

6. Experiments should be conducted using diagnostically structured reading programs in the primary grades.

7. Since the present study evidenced advantages of tutoring for students in elementary education, the program should be refined to study further the feasibility of tutoring as part of the teacher education program.

8. Since the subjects' gain in reading was related to the tutors' characteristics, an experimental program should be conducted to study teacher characteristics that influence pupil achievement.

9. Since the study indicated advantages for education students to apply theory and techniques of teaching while concurrently taking professional courses, a study should be made to test further its effectiveness in the major areas of elementary education.

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APPENDIX

Appendix A

Samples of the Weekly Progress Reports the tutors wrote for the investigator. The names of the pupils have been changed to avoid identify. Also, the tutors' names have been withheld.

Sample 1

Weekly Progress Report

December 14, 1967

Sue's greatest improvement this semester has been her change in attitude toward herself, her classmates, and school in general. She was rather hostile in October and was a "lone-wolf." She was singled out by her classmates to be the butt of jokes and ridicule. This practice has diminished with the passage of time. She has made significant, although not large strides, in her reading. She is really interested and enjoys success on her level. This new success seems to have boosted her whole outlook in school. I think her classmates sense this new confidence and this is the reason for less ridicule. Her personal appearance has improved also, helping her to present a more attractive personality.

John was very jolly this week and full of the Christmas spirit. He used a new colloquial term I have not heard before. He used "far" for time. He wanted to know how long our film strip on Eskimo children would be and asked "How far will it be?" John read better this week and showed improvement in the mechanics of reading. Next semester we must concentrate on critical thinking. John is bright and interested but he is very much rooted in the concrete realm of thinking. His carefree happy outlook is good so I want to capitalize on his good nature to help him become a more mature thinker.

Pat was quiet but attentive this week. She is upset because her mother and grandmother have had a disagreement which has resulted in not having Christmas dinner at Grandma's house. Pat is very distressed over this change in tradition but she felt better after we discussed the problem. We breezed through the short vowels and she did well in her reading. As with John, Pat also is not a very critical reader and tends to read all material in the same manner. We must work on this next semester.

Sample 2

Weekly Progress Report

January 15, 1968

When tutoring resumed after the Christmas Holidays, I could notice a definite change in attitude on the part of all my children. It took a coule of days to get them back into the mood for reading. My group was especially unattentive, and there has been a discipline problem with them since I came back.

My student teaching has definitely helped me with my tutoring and vice versa. Tutoring has enabled me to go into the classroom relatively calm, and student teaching has given me many ideas for tutoring.

Jim seems to have improved since December. In December, I was taking vowel sounds with him and getting nowhere. Then I decided to start at the beginning with basic sounds and he is doing very well. I am using the mimeographed sheets you gave us and he enjoys doing them and seems to be learning to stop and think about a sound more because of them.

Mary has been absent quite often since Christmas, so I haven't been able to accomplish much with her. She is studying syllabication, however.

Peter is still doing very well, but there seems to be a change in his attitude and I really don't know what it is. We studied how to use an index, reviewed dictionary skills, and went over some common expressions that he may hear in everyday language and not understand. I used such expressions as "walking on air" and "don't cry over spilt milk."

My group has taken syllabication and comparative and superlative cases. They seem to learn readily, but I have a problem keeping the boys' attention.

The children all reacted differently to the test. My slowest pupil thought it was easy, and some of the smarter children thought it was hard.

Sample 3

Weekly Progress Report

January 22 and February 1, 1968

During the past two weeks all my students learned the vocabulary words, amusing, numerous, comical, and laughable. I introduced these words through comic strips. We simply learned different words for funny. The week of January 29, we concentrated on twelve words derived from the Spanish as a follow-up on our Mexican visitor. We continued to play the short vowel game. I have never seen a better response to an activity. All my students enjoyed the game.

Cecilia was present only two days out of the eight days involved. It is difficult to say that we accomplished anything. I gave her an outside reading book. She is very ambitious. I tutored Bill, one of Joan's students, three days last week during the time I would normally have tutored Cecilia. I taught her a few Spanish words. She did fairly well on the silent reading exercises I gave her. What we did a great majority of the time was to play the short vowel game. She should be quite certain of this aspect of phonics. Monday, January 29, I tutored Patti's group.

This past week I noticed that I have to give Robert freedom to think. I gave him a choice between doing his silent reading exercise or playing the vowel game with Sandy's pupil. He wanted to do what I wanted him to do, but I knew he wanted to read, so I finally convinced him that he could do what he wanted (and he did!). He loves the challenge of the reading exercises. I give him level C, McCall Crabbs. His lowest score during these two weeks was fifth grade, fourth month. I do give him help, though, if he does not understand a particular word. We are ready to move on (finally) to long vowels.

I gave Joe a test on short vowels, and he knew them quite well. He gets short i and short e mixed up. It is hard for him to distinguish between pen and pin. He does the same reading exercises as Robert. His lowest score this week was third grade, eighth month. This really surprised me. At the time he took the test he did not care very much. His next lowest score was fifth grade, sixth month. We played the short vowel game quite a bit these two weeks.

In my group Peter and Sherry were absent for about a week. We played the short vowel game this week, and I gave them a test on short vowels. They did fairly well. Sue's vocabulary is very large. Peter is sometimes difficult to handle. They have not been doing as well on their silent reading exercises as I had expected them to do. They do average above fifth grade, all except Marilyn. She really tries hard, but has been scoring fourth grade, third month.

Sample 4

Weekly Progress Report

February 8, 1968

JEAN MILLER

This past Sunday Mary and I took our children to see the Air Force Museum and then tour the U.D. Campus. Though the trip did not seem to go smoothly (we picked a very beautiful Sunday to take sixteen children to see something everybody else decided to see the same day and it was really hard keeping the group together). I know the children enjoyed themselves. Jean was much more talkative and happy this week. She wrote a lot about the trip in her diary Monday morning and was still talking about it Tuesday. She continues to be doing well in her reading lessons and in recognizing new words in a lesson. We have gone through the majority of vowel sounds, and next week I plan to begin a booklet of vowel rules with her. The lost library book has still not been found and at the beginning of the week she asked me to check my car and see if her white gloves were still there that she had worn on the trip. I could not find them for her and she seemed very embarrassed. I still can't decide whether I did the right thing in not asking Jean help me pay for the book, but I know she's too young to earn the money herself and I'm sure, from the looks of her home, her parents don't have money to spare.

JAMES CARRY

This week there was no notable progress in James though he continues to do well on his reading lessons and vocabulary words. He still insists on taking as much time as possible with each lesson, however, and if not watched at all times during an assignment he is doing on his own, he will spend twenty minutes on it. He is also doing well in recognizing the vowel sounds due to the fact that we practice by using the card game. As yet, however, he will not offer words of his own as examples of each sound; he just laughs and says he can't do it. I'm sure James enjoyed himself Sunday, though he isn't the type to say too much about what he thought about it. We all could tell that he appreciated it, by the way he will continually talk about something that happened.

SHERRY MOUNTY

Sherry is doing well as usual with no apparent problems. She seems to have gotten over the "D" in reading, without letting it dampen her enthusiasm as I was afraid it might. She really enjoys our classes and is doing extra reading in books she normally would not have picked for herself. Her present book is Good Master, which I gave her just to try to see if she could read the first few pages. I thought it might be a little too hard for her but since I had enjoyed the story so much, I thought it might interest her in really trying harder material. It succeeded, and she came in the next day very anxious to discuss what she had read. As an example as to how observant she is, she tried immediately to relate to me what she considered Kathy's personality to be, as she had seen it through the book. She was at a loss as to what word to use to describe Kathy, and when I suggested "vibrant," she was thrilled saying she had heard the word but didn't know how to use it. All-in-all she makes so much progress everyday that it is really a challenge to keep her busy with interesting work.

GROUP

At the beginning of this week, since I hadn't had a chance to get to the Materials Center for more reading lessons for Michael, I had to continue him with the others while I again took Henry aside. Tuesday I brought in the little Gerbil that I was going to introduce that afternoon in my second grade room as the class pet. I thought this would really interest the boys, and it did, all but Michael. He went over into a corner of the nurse's room and just sulked because he said he wanted to "work." Therefore, Wednesday I planned a separate lesson for Henry, Michael, and the group and Michael seemed to do very well. Thursday, however, was the most "exciting" day. Just by chance Mary had the book on Abraham Lincoln that I had been wanting to do a lesson on with the boys. She said she would take the group of three (Henry was absent) while I took Michael individually. I started Michael on a reading lesson from a very interesting third grade reading text I had from the library. He, of course, stumbled over many of the words, but after I listened to him for awhile, I discovered that he really knows his letter sounds and if encouraged and given the right phonetic hints, he can generally sound out any word in front of him. He was getting words like strange, passageway, quickly, and I even introduced the idea of contractions to him and gave him the word itself. He was so thrilled he left beaming, and he made me write every one of the new words on little cards for his vocabulary pack. This was perfect reinforcement for my idea that all these children need is challenge and encouragement and they can achieve tremendously. Now to find a way to take each of these three groups individually at least once a week.

Appendix B

Retrospective Views of Tutoring

Samples of reports written by the tutors in January after three months of tutoring individuals and small groups of children. The names of the tutors have been withheld.

Sample 1

Tutoring from October to December

My most outstanding observation when thinking about my impressions of tutoring in October as compared with December is self-confidence that definitely shows in all the tutors now. I feel that this comes with experience and adjustment to the surroundings to a degree, but also, we all seem to have a feeling of accomplishment. I feel that we are more sincere in our role as a teacher, at least I am, in the fact that I see how much these children need to learn and how little we can do in the short time allowed.

The children show by their attitude that they respect us. They work harder now and listen to what we say much more now than they did in October. This could be due to more discipline on our part. Also, it could be that we are dressing more professionally since we are doing our student teaching. Surprisingly, this had had a definite effect on the children's reaction to us.

As far as my personal experiences with my children are concerned, I can see that the general interest of the children has increased very much since October. Towards the end of the semester I felt that I was motivating the children more, making them want to read on their own and making it clear to them that I was there to help them learn and so they would have to work for me.

It took quite some time for me to know the strengths and weaknesses of the children. Some seemed so fast, others unbelievably slow. At first I found myself saying "this child can read the fastest" instead of realizing that "this child can really understand what he reads" was far more necessary. Now, I want to instill in them the desire to learn. We try together to learn as much as we can, reviewing just enough to remember the things that have been taught.

In October it was so terribly hard to make out lesson plans. I tried so hard to incorporate all the areas and make them run smoothly, that I found myself worrying more about planning lessons than I did about teaching them. Instead of worrying about what the children needed to learn, it was following lesson plans. This has changed, and I now plan around the children's interests and needs.

In October the period seemed long. Probably this was because my plans were choppy. In December I found myself never getting in all I wanted to teach. I can see the importance of vocabulary so clearly now. By integrating vocabulary in all areas, rather than isolating it, the children build their knowledge of words and have more experiences through words and meanings. I now stress word attach more to make the chidren independent, mature readers.

Sample 2

Tutoring from October to December

In October, 1967, my impressions of tutoring could be described as uncertain and bewildered. I had little idea of how to teach reading. My knowledge of word attack skills was very limited. I often felt as if I was going around in circles with little or no results. Reading lessons were either too easy or too difficult. I was unable to detect reading difficulties, such as insertion of words. In general, I didn't know if I could really help the children to improve.

In December, 1967, my impressions of tutoring could be described as more confident. I had come to know each student, individual capabilities, problems, and interests. I could work with each child at his rate. I learned the great value of using visual aids. By this time, I had developed a more structured lesson and could see my objectives for each child. Thus, I could see improvement in their reading abilities and in my teaching.

In the time between October and December, I experienced the joys and successes of teaching as well as the trials and struggles. I realized the many aspects involved in teaching reading. I discovered for myself the reasons behind the theory taught in the Reading and Language Arts class and in other courses.

From October to December, I became involved with the child. I thought often about his development and his future. I became very much aware of the great influence and family, culture, and society have upon the child. I became conscious of the problems children of a different race experience. I could see children learning together in an integrated school. Questions which the children asked me about racial difficulties brought much thought to mind as I tried to find answers. Other problems also became real to me. I learned about the culturally deprived child and could see how lack of opportunities affected his reading.

Thus, in October, I was apprehensive about tutoring. The responsibility seemed tremendous. In December I knew that all efforts were well worthwhile. I had learned much from my experiences, more than any textbook could suggest. I felt a deep feeling of accomplishment within myself. I hope that the students were able to learn as much in that period of three months as I feel I have.

Sample 3

Tutoring from October to December

When I started in October I was not as uneasy about the lessons themselves as I was about working with the children. Fear of the unknown and of an entirely different environment definitely influenced my first few weeks of tutoring. Pity for the children and self-glory on my own part made me want to be more friendly and less disciplinary than I should have been. At first my lessons centered mostly upon enrichment, taking unit topics like the circus, the jungle, and the policeman. Later I learned that I could use these topics but still teach word attack skills and structural forms. For the most part I found that a brief review of the alphabet and vowel sounds was imperative. Towards the end of November I started teaching diphthongs, digraphs, and blends, and still later started syllabication. I found that the children had little knowledge of the dictionary and the encyclopedia. Therefore, I took vocabulary words that could be found in both the dictionary and the encyclopedia.

Tutoring has also given me great insight into the personality of the child. A great many factors incluence the learning ability of a child, his health, his family and home-life, the weather, and even at times the day of the week. How to reach the child in all of these circumstances I found to be the most challenging aspect of tutoring.

In summarizing, I feel that I have greatly benefited from this program and have been given the opportunity to advance and better myself as a teacher and as an individual. In teaching the same class in student teaching in which I tutor, I can see the definite value of such a program with the children in the class.

Sample 4

Tutoring from October to December

When I first began tutoring I really didn't know what to expect. Being a cadet, I hadn't completed many education courses and this was to be the first time I would be a full time student and at the same time hold a job. I remember I was anxious to start, but I had no idea of the work involved.

First, I found I was more uneducated than my pupils. I knew nothing about reading. So I began to do much research--learning myself one week what I would teach the children the next week. I tried dozens of new methods and now I realize half the time I didn't stick with one technique long enough to obtain the results I might have.

The children were wonderful. They were really patient and seemed very responsive. I am glad I had such varied abilities in the children I taught. Their mental ability seemed to range from the first grade to the sixth or seventh. I needed this wide experience. I should have approached the children more as a superior than a friend. I still have trouble with my three slow boys because they don't respect me enough as a teacher.

These first months were the most tiring in my whole life. I came home from night classes at ten o'clock and planned lessons. Possibly, other reasons accounted for my fatigue. But one thing I know for sure--anyone who said that elementary education was easy got an argument from me.

Today, I look back and I can truthfully say I'm glad I did it. I feel proficient at something--teaching reading. I feel able to see differences in children and I feel challenged by every one of them, especially the slower ones. To me I feelevery child can learn to read and it's up to the teacher to find the key to his mind. I realize that we, as tutors, could deal with the children individually, something we won't have as much time for when we have a large class. I also saw how often children must turn teachers "off" and how often teaching a group does not mean teaching individuals.

I am thankful for the opportunities to learn to use aids such as the tape recorder and film projectors.

My impression of tutoring now is a favorable one--I feel much more fulfilled than ever before. I am not afraid to teach now. I want to. It has often been said that you'll never know unless you try. I've tried and I know--teaching is my field, my kind of job.

Appendix C

Samples of diagnostic reports written by the tutors in November. The names of the tutors have been withheld. The names of the pupils have been changed to avoid identify.

Sample 1

Diagnostic Report

Name of Subject: Mary Jones
Reading Level--Pre-Test: 3.6
Strengths and Weaknesses of Subject Found From Diagnostic Test and Your Observations:

a. Orientation: Mary reads very evenly and in phrases though on harder material she tends to move her lips.

b. Oral Reading:

Omissions: Always tries for words in a story she does not know rather than skipping them.

Substitutions: Reads the word on the page and does not substitute more familiar words. She tries hard to learn a new word.

Insertions: Reads only the material on the page.

Pronunciation: Has very clear pronunciation habits and seldom drops endings or parts of words.

Repetition: Because of her good reading ability, Mary doesn't come across that many words that she cannot eventually figure out, therefore, she seldom has to repeat.

Word by word reading: Reads in phrases.

Neglect of punctuation marks: Generally makes proper use of punctuation marks.

Loses place: Has good attention span and seldom, if ever, loses place.

Ability to read orally and comprehend: Can comprehend as well while reading orally as silently.

c. Word Attack Skills:

Auditory and visual discrimination: Has mastered the initial, medial, and final consonant sound.

Recognition of the alphabet: Has thorough recognition of all letters of the alphabet.

Identification of consonant and vowel sounds: Has no trouble with the initial consonant sound, initial consonant blends, or initial vowel sounds. But, as can be expected she has slight difficulty with the medial and end positions of consonants, blends, and vowel sounds probably due to lack of experience in discriminating these characteristics.

d. Structural Analysis:

Plurals and tenses: Understands the plural of words and will use them whenever a sentence calls for them. Example: If I give her a vocabulary word like "entitle" and ask her to use it in a sentence she will change it to the correct tense in the sentence she gives. Likewise plurals of nouns give her little trouble either.

Root words and affixes: Is very proficient in picking out the root of a word, but she is really not familiar with what affix will change a root word to a different word with a new meaning.

Contractions: Knows what a contraction is, but like all of my children she drops the final sound of most contractions as she reads them orally. I know, however, that she understands what they are and how to use them.

Compound words: Like the root words she can determine very easily what the parts of a compound word are.

Syllabication: Uses syllabication satisfactorily in determining the pronunciation of a word though sometimes it will be the incorrect divisions. A little more experience in this area and an introduction of some of the more helpful and easily remembered rules will increase her ability.

e. Dictionary Skills: Though she has not completely mastered the skill of putting words into alphabetical order any farther than the second letter she still is anxious to use the dictionary to look up unfamiliar words. Therefore, with more practice I'm sure she will become much more proficient.

f. Comprehension:

Details: Is reasonably good at remembering details in something she has read unless a purpose is not given for remembering them.

Main idea: This little girl has extremely keen insight and though some of her explanations are quite elementary she usually comes up with very unique and appropriate answers to thought provoking questions. She always knows the idea an author is trying to convey.

Relationship of Ideas and Thoughtful Comprehension:

Sequence: I have not really assessed her ability to determine the sequence of a story or reading lesson, but in arranging cartoons in sequence she always is quick and generally accurate.

Cause and effect: As I said she has tremendous insight and usually goes on to explain the reason a character or thing in a story acts the way it does and what the effect will be.

Relevance: I have noticed her advanced ability in this skill by having her evaluate various quotations. She can generally pick out the most relevant factors in influencing the situation unless it is a completely new concept.

Motivation of subject: Extremely enthusiastic, not primarily for the attention she is getting, but with the progress she is making. She must be the perfect example of "Intrinsic Motivation."

Interests of subject: Loves to read, which explains her advanced abilities. She loves novel things that require the use of her hands, therefore, a little upgrading of an "elementary" visual aid encourages her to work even harder.

Overall objectives or goals: Since she is efficient in the use of the word attack skills I intend only to review and drill those areas that she really needs help in. She must constantly be challenged, therefore, I'm going to begin teaching the creative skills as soon as possible. In this way, I hope to encourage her to learn more abstract concepts that I am sure she is ready for. I hope to be able to challenge her potential to such an extent that she will come to realize her capabilities and therefore develop them consciously to their greater degree.

Goal for December 19: By December 19, I hope to have introduced all the skills mentioned under "Strengths and Weaknesses" above. In doing this, I would like to be able to determine what definite drill she needs after Christmas and how deep I can go in presenting more abstract and creative concepts.

Times absent: None

Times I have used:

Tape recorder: Three times

Film Strip Projector: Once

Pictures, etc.: Approximately five times. Also whenever necessary to illustrate a word in a reading lesson or in her vocabulary.

Other comments: I really feel lucky to have Mary along with my other very slow students, in that preparation for her lesson is almost on my level rather than entirely primary--she is a challenge to me.

Sample 2

Diagnostic Report

Name of Subject: Dan Smith
Reading Level--Pre-Test: below 2.0
Strengths and Weaknesses of Subject Found From Diagnostic Tests and Your Observations:

a. Orientation: Cannot read in phrases due to the fact that he has really just mastered the alphabet and is now just learning how to apply each letter and its sound to how it's used in a word.

b. Oral Reading:

Omissions: Generally, if Dan does not know a word, he will stop for help rather than skip it and go on.

Substitutions: Does tend to substitute words in a sentence that he feels might fit the sentence.

Insertions: Many times in substituting more familiar words he will insert words that have no part in the reading.

Pronunciation: Has generally good pronunciation when he learns how to pronounce the word in the story.

Repetition: When he comes to words that he does not know, he does tend to repeat the words that he has previously read.

Word by word reading: Does have to read word by word due to the fact that he is just beginning to recognize various elements in a word and is not yet completely familiar with them.

Neglect of Punctuation marks: Has not as yet achieved any understanding of the meaning of punctuation because he usually has to pause after every few words as he comes across words that he doesn't recognize.

Loses place: Tends to lose his place often, due to the fact that he has to stop several times and listen to the explanation of the words he doesn't know.

Ability to read orally and comprehend: Can comperehend material read aloud much easier than material read silently on his own due to the fact that he has a very hard time with most of the words he meets.

c. Word Attack Skills:

Auditory and visual discrimination: Having just mastered the alphabet, I am beginning to introduce the visual and auditory recognition of these letters as they appear in their initial, medial and ending positions. He seems to be able to understand the initial consonant sounds and he had no trouble listing the vowels.

Recognition of the alphabet: Can now say the alphabet in sequence and recognizes the individual letters.

Identification of consonant and vowel sounds: I am just introducing these elements and he seems to be learning them quite well.

d. Structural Analysis:

Plurals: I have not tried to determine his skill in using or recognizing a word in this form.

Root words and affixes: I have not drilled these structural elements as yet.

Contractions: I have not tried to determine his ability to use or recognize this type of word.

Compound words: Needs much more work in the basic sight words before he will be able to pick out the smaller words that make up a compound word.

Syllabication: Just beginning to learn the major parts of a word so as yet he cannot begin to syllabicate words.

e. Dictionary Skills: The only element of dictionary skills that I have introduced to Dan is the concept of alphabetical sequence. Once he had satistactorily mastered this skill, I had him find his name as it should appear in the phone book.

f. Comprehension:

Details: Does seem to retain many of the details of a story and a little more practice along these lines once his reading level has been improved will probably result in very marked progress.

Main idea: Generally can remember the main idea of a story though he can explain it only in very simple language due to his limited vocabulary.

Relationship of Ideas and Thoughtful Comprehension:

Sequence: I have not really assessed his ability in this skill.

Cause and effect: I have not really assessed his ability in this skill.

Motivation of subject: Dan is not hard to motivate with concrete things. However, it is hard to determine whether he is retaining the material being presented through this material. He loves things that he can handle and his last question of the day is always, "Is there anything I can take home?" He can be persuaded by the stronger boys in the group because he is easy going. When he is interested in the story being read, he will listen.

Interests of the subject: Likes football and animals. He also likes to draw and likes things that are pretty. He seems to be the type of boy that would really enjoy the experiences he would get out of reading.

Overall objectives or goals: By April I would like to have Dan reading on average third grade level. I really think he will enjoy reading and once he has achieved a fair level I want to start motivating him with interesting reading material. I would like to see him achieve a fairly good retention of word attack skills so that by applying them to the new words he meets he will have more successes and will become more enthusiastic with reading for the sake of reading.

Goal for December 19: By December I would like to have taken at least a half to three-fourths of the word attack and structured skills. I would also like to have him reading at a more independent level so that I can give him a book for Christmas and expect that he will be able to get through it without much trouble.

Times absent: None

Times I have used:

Tape recorder: I have used it three times to tape the group's experience stories.

Film strip projector: Once, when I had been taking a unit on the farm.

Others: I generally always have some sort of visual aid to either motivate the boys or to make a new concept more clear.

Sample 3

Diagnostic Report

Name of Subject: Peter Clark
Reading Level: 3.5
Observations:

a. Orientation: Reads without assistance of place markers.

b. Oral Reading: Often tries to read too fast.

Omissions: Has distinct tendency to omit unfamiliar words and phrases.

Substitutions: Will occasionally substitute and insert words, but usually omits them altogether. He is, however, beginning to attempt new words.

Mispronunciations: Will occasionally mispronounce until corrected.

Repetition: Reads smoothly; reads in phrases.

Punctuation: Has tendency to disregard punctuation marks.

Place: Follows place easily.

Comprehension: Is high after oral reading if story is of interest to him.

c. Word Attack: Recognizes audio and visual alphabet, has a working familiarity with vowel sounds and suffixes, is rapidly progressing in consonant blends as well as initial, middle, and final consonant sounds.

d. Structural analysis: Can identify plurals, usually comprehends root words, able to recognize past tense, and able to discriminate syllables.

e. Dictionary skills: Have not been attempted so far.

f. Comprehension:

Details: Remembers necessary details.

Main idea: Clearly understands main theme.

Interpretation: Follows sequence, sometimes confuses cause and effect, can correlate relevance.

Motivation: Highly motivated. Always anxious to start and has expressed desire that period last longer.

Interests: Especially interested in football, baseball, basketball, animals, and automobiles.

Overall objective: Peter needs guidance in channeling his energies into attacking new and difficult material. He is capable of producing more than has previously been expected of him in school. I would like to cover blends, both consonant and vowels and syllabication. He needs help in following punctuation marks and broader interests so as to remember more detailed information. Through the use of the word attack skills he should be able to develop the confidence necessary to attack words unfamiliar to him. This may aid in the problem of much omission. I hope to broaden his interests through study of different places, people, customs, and sports.

December 19, 1967: Finish consonant blends and diagraphs, begin dictionary skills and study of vowels.

Absenses: 0
Uses of:
Tape recorder: 3 or 4 times.
Flash cards: Daily, for vocabulary words
Alphabet cards: 10 to 12 times.

Sample 4

Diagnostic Report

Name of Subject: Kathleen Farrell
Reading Level: Pre-Test: 2.9
Strengths and Weaknesses:

Orientation: Kathleen told me she did have trouble following lines in reading before she got her glasses. She still skips lines frequently and likes to use a cardor pencil.

Oral reading: Good oral reader, uses expression.

Omissions: May omit the endings of words.

Substitutions: No

Insertions: No, not common.

Mispronunciations: Good at sounding out words when she's not sure, but if she does not pronounce them right she may still go on reading.

Repetition: No

Word by word reading: Tries hard not to read word by word and is succeeding.

Punctuation: Reads with much expression and notes the punctuation marks carefully.

Loses place: Not often.

Ability to read orally and comprehend: Very good. She reads pages from her book and tells me all about it.

Word attack skills:

Alphabet: Yes

Short and long vowels: Yes

Murmur diphthongs: Yes

Plain digraphs: Taking now

Structural analysis: Haven't taken

Dictionary skills: Knows the four parts and where to open it for a certain letter. Knows how to use the guide words.

Comprehension:

Details: Not very good. Misses some of the detail questions from the story papers.

Main idea: Very good

Relationship of ideas and thoughtful comprehension: Good. Will relate ideas to her own personal experiences.

Sequence: Have not developed.

Cause and effect: Have not developed.

Relevance: Have not developed.

Motivation of subject: Kathleen is highly motivated to do well in anything she does. She is very conscious of marks. She is also very neat in her work and will take a long time doing something just to perfect it.

Interests of subject: She likes to tell stories of her experiences. Her mother just had a baby and she was very excited and likes to talk about her mother.

Overall objectives or goals: I would like to increase Kathleen's interest in reading. She is motivated now but I would like her to want more of a challenge in reading.
Goal for December 19: Learn the digraphs and dipthongs. More work on the dictionary skills. Improve the various comprehension skills.

Number of times used:

Tape recorder: None

Film strip projector: None

Number of times subject was absent: 0

Other comments or observations: Kathleen is a hard worker and wants perfection. I think she can be an excellent reader. She is my brightest pupil and works the hardest. I would say her reading level is almost a 4.0, but she probably got a 2.9 because of her slowness.

Sample 5

Diagnostic Report

Name of Subject: Jim Brown
Reading Level: Pre-Test: 3.2
Strengths and weaknesses of subject found from diagnostic tests and my observations:

Orientation: He moves lips every once in a while in silent reading. Sometimes he reads with the aid of a pencil.

Oral reading:

Omissions: He does omit words.

Substitutions: He substitutes words.

Insertions: He inserts words.

Mispronounciations: He mispronounces words.

Repetition: He repeats what he has just read.

Word by word reading: He reads word by word.

Neglect of punctuation marks: He does neglect punctuation marks.

Loses place: Sometimes he loses his place especially when he is nervous because of so many mistakes.

Ability to read orally and comprehend: He has some ability to read orally and comprehend. He can retain the main idea and very few details.

Word attack skills:

Recognition of letters of alphabet: Needs review every day. Knows auditory and visual discrimination of vowels. Knows auditory and visual discrimination of initial, medial, and final consonant sounds.

Syllabication: Not too good.

Structural analysis: Can't recognize variant forms. Seldom identifies the root word. Seldom knows contractions.

Dictionary skills: Haven't taken with child.

Comprehension:

Details: Child can gather some details.

Main idea: He can usually get the main idea of a story.

Relationship of ideas and thoughtful comprehension (Interpretation)

Sequence: Have not developed.

Cause and effect: Have not developed.

Relevance: Have not developed.

Motivation of subject: Good.

Interests of subject: Wants to be a doctor. Likes football, Indian stories, and mysteries.

Overall objectives or goals: Development of a large sight vocabulary. Development of skill in identifying unfamiliar words, through the use of context, phonics, structural analysis, and dictionary. Development of good eye movement habits. Development of good postural habits while reading. Development of oral reading skills: phrasing and expression, and volume, pitch and enunciation. Development of speed and fluency in silent reading. Learning to read for specific purposes. Development of interests in outside reading.

Goals for December 19:

Word attack skills: Master the alphabet. Know all long and short vowel sounds. Functional knowledge of consonant blends and consonant digraphs. Know rhyming.

Structural analysis: Root words; contractions; master punctuation marks; master endings of words when he reads orally; and master reading in phreses.

Number of times subject was absent since October 2: 2

Number of times I used:

Tape recorder: 4

Film strip projector: 0

Other visual aid materials: Chalkboard, pictures, with scene for Halloween, flashcards.

Other comments or observations: Jim tries very hard and is always trying to please me. He can't follow directions.

Appendix D

Samples of evaluative reports written by tutors. The names of the tutors have been withheld from the reports.

Sample 1

Advantages and Disadvantages of the Tutoring Program

The benefits of the tutoring program were the following: (1) it gave a good experience of working with the children that merely observing could not have done; (2) I felt rather secure when beginning my student teaching because this type of experience was not entirely new to me; (3) It gave me a chance to see and compare two schools which although located in a very similar socio-economic area were entirely different, and a chance to question why. I feel this was a good experience in finding true ways of motivating pupils and of judging the various types of discipline; (4) The project was of much value in learning the methods and procedures of teaching reading; (5) It gave me a chance to face frustration and to learn to cope with it or to do something about it before I began student teaching (during which time it would have been more difficult to adjust).

The greatest drawback to the tutoring is the obvious one of not being able to spend enough time with my actual class and critic teacher. It is much more difficult to try to acclimate yourself to a classroom and the materials which they are covering when you are only there for a half day. Other disadvantages were the following: (1) Tutoring was hard work, and I found that I was spending so much time on what I would do for the students I tutored. This plus the fact that the class met four times a week plus the two hours of seminar, made it seem as if the tutoring project was the only thing in the world that had to be done. To a student who is carrying 13 or so other hours this can be a difficulty; (2) The facilities at the school where I tutored were not conducive to learning for the children; and (3) Children should be grouped rather than chosen at random for easier and more effective teaching.

Sample 2

Advantages and Disadvantages of the Tutoring Program

The tutoring program had many advantages and, for me, one disadvantage. The advantages were the following: We were introduced to teaching before student teaching. Student teaching is such a new experience for the student and tutoring is a good orientation for it. We could try ideas that we heard in class and decide then, while the idea was fresh in our mind, if we would like to continue using it. Also, we had the chance to see the benefits of testing the child and building from the knowledge that he has. This program provided experience in dealing not only with children but also with other teachers and principals. Those of us who were tutoring at one school and did our student teaching at another school had a chance to compare the two different school systems. Lastly, we learned about the many visual aids that are available and we were able to use them.

The only disadvantage was that it took so much time to prepare for the lessons. Unfortunately, there doesn't seem to be any way to shorten this time because this preparation is necessary.

Sample 3

Advantages and Disadvantages of the Tutoring Program

I believe there can be no substitute for the experience I received this year working in the combination tutorial, student teaching program. It has been by far my most trying year but has given me the most satisfaction and appreciation of the teaching field.

First of all we had the advantage of being in a school all year. This was done along with the regular classes, which in itself was a job.

This was called an "experimental" program, and I don't think it can be described any better. At times I felt the experiment was on myself alone. We, the teachers had the chance to experiment with every technique we could think of to teach reading to the children we tutored. These experiences are not something that will be forgotten at the duration of this week. I consider the experience of this year a most important of my college career.

I don't think that any experience was lost by not being in the classroom for five full days a whole semester. We have had full days of teaching and we have years ahead of us. The tutoring program will help us, I'm sure, more than we realize now. I know I'm realizing the advantages of it more than last term when I was getting acquainted with the complete new situation of teaching in the elementary school. This program prepared us for student teaching and we knew more of what to expect in the classroom situation by working with these individuals.

When my teaching career begins I think I will be ready to accept all the first year difficulties having been through a few of them. I know what it is like to have children who do not know the alphabet in your reading group and I think I know how to handle this situation. I know the advantages of the tape recorder and other audio-visual aids and am prepared to use them to better the learning situation.

I think I have a better idea of what I want my classroom situation to be by seeing so many different types of learning situations this year.

Appendix E

Materials Used for Tutoring

Materials Used for Tutoring

1. Workbooks

   From Barnell Loft, Ltd., 111 S. Center Avenue, Rockville Centre, N. Y.
   Using the Contest, Books A-F
   Working with Sounds, Books A-D
   Getting the Facts, Books A-D
   Locating the Answer, Books A-D
   Following Directions, Books A-D

   From the Bureau of Publications, Teachers College, Columbia University, 525 W. 120th St., New York, N.Y.
   Gates-Peardon Reading Exercises
     Introductory Level A and B
     Preparatory Level A and B
     Elementary SA, RD, Fd,
     Intermediate SA, Rd, Fd
   McCall-Crabbs Standard Test Lessons in Reading
     Primary
     Books A-D

   From the Macmillan Company, 60 Fifth Ave., New York, N.Y.
   Word Analysis, Level 1-6
   Vocabulary Development, Level 1-6
   Comprehension, Levels 1-6

   From the Charles E. Merrill Co., 1300 Alum Creek Drive, Columbus, Ohio
   Reading Skilltexts, Levels 1-6
   Science Adventure Series, Levels 1-6
   Read, Study, Think, Levels 1-6

2. Trade Books. Selected according to the interests and needs of the individual child.

3. Machines. Tape recorders, Overhead projectors, Listening stations, Film strip projectors, Opaque projectors.

4. Other Visual Aids. Tapes borrowed from the library; Records borrowed from the library; Short film strips borrowed from the library; Pictures; EDL Flash-X; Models borrowed from the library; Games

   From the Garrard Press, Champaign, Illinois: Group word teaching game; Basic sight cards; Sight phrase cards; Picture word cards; Consonant lotto; Vowel lotto; Vowel flash cards.

   From the Milton Bradley Company, Springfield, Massachusetts: Flash words; Phonetic drill cards; Phonetic quizmo; Phonetic word wheel; Picture word builder; Poster cards, Vowel, Consonant, Homonym; Magnetic boards and letters.

Vita

Rita Eleanor Klosterman was born in Dayton, Ohio, on March 3, 1918. She attended grade and high school in Dayton. From 1936 to 1938, she attended the Athenaeun of Ohio, Cincinnati, Ohio, after which she transferred to Immaculate Heart College, Los Angeles, California, where she received her B.A. in Elementary and Secondary Education in 1943. She taught in public and parochial elementary schools in Ohio, Missouri, Arizona, and California from 1938 to 1960. In 1956, she received her M.A. in Elementary Education from St. John College, Cleveland, Ohio. From 1960 to 1965, she was an assistant professor of education at the University of Dayton. After a two year leave of absence from the University of Dayton, for graduate work at Indiana University, 1965-1967, she returned to the faculty in the School of Education at the University of Dayton, Dayton, Ohio.

Title: The Effectiveness of a Diagnostically Structured Reading Program for Fourth Grade Pupils Using Students Majoring in Elementary Education as Tutors

Personal Author: Klosterman, Sister Laurietta (Rita)

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Abstract: This study purposed to determine (1) the effectiveness of a diagnostically structured tutoring program conducted by students majoring in elementary education, (2) if fourth grade pupils who were tutored as part of their regular classroom instruction achieved significantly greater gains in reading achievement than those who received only regular classroom instruction, and (3) if pupils tutored individually achieved greater gains in reading achievement than pupils tutored in small groups. The 130 participating pupils from three schools were (1) from a low socio-economic district, (2) selected randomly from intact classroom units to be tutored individually, in a small group, or, be a member of the classroom control. Fifty fourth grade pupils from another school comprised an outside control. The twenty tutors volunteered to take the Reading Method course concurrently while tutoring and to use the tutoring as part of their student teaching activities. The tutoring sessions were held for six months, four days weekly, one-half hour per session. Instruction was diagnostically structured according to the needs of the individual child. Achievement was measured by test-re-test, using a one-way analysis of variance to determine the significant difference in gain between treatment groups.